



Blunting the Spear

Why Good People Get Out

Brian T. Stahl
Lieutenant Colonel, USAF



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Foreword

The Air Force loves to measure “stuff”; however, the “stuff” that gets measured does not always yield the information required for sound decision making. For example, the Air Force has historically chosen to reduce pilot shortages by using longer active duty service commitments and bonus payments. No one, however, questioned the effectiveness of this approach to see if it actually addressed the reasons pilots separated from the Air Force—no one, that is, until now.

In this study, Lt Col Brian Stahl questions this approach by asking why many of the best aviators in the Air Force separate before they become eligible for retirement. He challenges the “common sense wisdom” of the Air Force by questioning the idea that one need only throw money at the problem to fix it. In doing so, he forced me to recall the adage oft attributed to Ben Franklin that “nothing is so uncommon as common sense.” His challenge proves to be a worthy one.

Using a combination of rated-officer retention reports, survey data, and interviews, he addressed three key issues in his research. First, he asked if there really was a retention problem in the combat air forces (CAF). Next, he wanted to know what risks were associated with poor retention in the CAF. Finally, he sought solutions the Air Force could employ if indeed retention was a problem. His study examined three pilot groups in the CAF: fighters, bombers, and remotely piloted aircraft (RPA). His surveys and interviews expanded the retention discussion beyond compensation issues and included Air Force identity, promotion and recognition, family/family stability, operations tempo, and “others.”

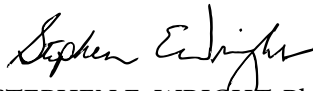
He found that the lack of exit and retention surveys that explored a range of issues at different times in a rated officer’s career—not just at separation—gave the Air Force an incomplete understanding of retention issues, both in terms of what those issues were and when they became problems. For the current force, the effect of operations tempo on family stability is a key retention factor, especially for midcareer officers—the ones most likely to have young children at home. Another interesting finding was concerns for professional development, especially in education opportunities, and that missing such prospects could lead to negative effects on recognition and promotion. These specific findings support his major argument that retention is not merely about compensation.

A good study leads to insightful recommendations, and Colonel Stahl’s is no exception. He recommends that the Air Force begin a systematic process for conducting retention surveys across the force at various times during an

FOREWORD

officer's career. The results from these surveys lead to the next recommendation—to tailor retention incentives by Air Force specialties and to vary those incentives over time consistent with an officer's evolving priorities. In other words, the Air Force should move away from a “one size fits all” mentality in its pilot-retention effort.

Colonel Stahl produced an exceptional study not only in its quality but also in its insights into a key issue—pilot retention. With airline associations predicting a worldwide requirement for some 500,000 pilots in the next 20 years, retaining the Air Force's best pilots will remain a priority for a long time to come. As testament to the quality of this study, Colonel Stahl's *Blunting the Spear: Why Good People Get Out* received the First Command Financial Planning Award for the best SAASS thesis of 2013 in the leadership and ethics category. I commend it to you for the value of its analysis as well as for its conclusions and recommendations.

A handwritten signature in black ink, reading "Stephen E. Wright". The signature is fluid and cursive, with the first name "Stephen" and last name "Wright" clearly legible.

STEPHEN E. WRIGHT, PhD
Education Advisor and Deputy Commandant
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About the Author

Lt Col Brian T. Stahl is an Airman and officer in the United States Air Force. Prior to attending the School of Advanced Air and Space Studies, he was a Strategic Policy Fellow in Washington, DC, where he worked in the Secretary of the Air Force's Acquisition Office (SAF/AQP) and the Office of the Undersecretary of Defense for Policy (OUSD-P). Colonel Stahl is an F-22 pilot and has a broad background in fighter operations, with over 1,300 total flying hours in the F-22 and F-16CJ. He has deployed several times in support of regional security in the Middle East and Asia as part of F-22 theater security packages.

Colonel Stahl holds a master's degree in aviation and aerospace management from Embry Riddle Aeronautical University and a bachelor's degree in behavioral science from the Air Force Academy. He is also a graduate of the USAF Air Command and Staff College; Squadron Officer School, where he was a Commandant's Leadership Award recipient; and the Aerospace Basic Course. Colonel Stahl currently serves in the Air Force Chief of Staff's Strategic Studies Group, Washington, DC.

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To all the men and women who served as the impetus behind this study, I am honored to have walked beside you and thank you for your service. At the completion of this research, I can simply say, I understand.

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My father has been a sounding board for me. Thank you for always having the time to read my work, listen to my thoughts, and continue guiding me in my personal and professional development. To the rest of my family, thank you for all the support through this year. It has meant the world to me.

To my children, I know this year has been difficult. As always, you have amazed me with your resilience. I am blessed to be your father.

Finally, to my wife, you will never know the extent to which I leaned on you this year. Thank you for taking things on when I could not, for picking me up when I fell down, and for always driving me to do my best. Your patience and love are inspiring.

Abstract

This study analyzes the United States Air Force's retention of the "best" rated officers from the combat air forces. Specifically, it addresses the retention of pilots from the fighter, bomber, and remotely piloted aircraft communities and highlights the need for more focused retention methods. This research shows that each rated community within the Air Force has different contextual definitions of those variables deemed most influential for retention. Further, the author argues that a failure to negotiate these identified disparities at key points throughout an officer's career will lead to decreased retention of the best, regardless of monetary payout made available at the completion of an active duty service commitment. As such, the author proposes several methods the Air Force can use to address retention contextually, starting at the Air Force level and progressing to individual major weapons system communities.

Chapter 1

Introduction: Dear Boss

“Dear Boss, Well, I quit.” These five words open a poignant two-page letter written shortly after the end of the Vietnam War to Gen Wilbur Creech, serving as Tactical Air Command (TAC) commander. The letter succinctly captures a pervasive loss of faith in the USAF’s perceived ability to maintain combat readiness given the bureaucracy, leadership, and lack of mission focus. Peppered throughout the text are phrases indicative of a sick organization: “poor leadership and motivational ability”; “lower quality people”; and “long hours with little support, entitlements eroded, integrity a mockery, zero visible career progression and senior commanders evidently totally missing the point.” This is not a healthy organizational picture by anyone’s account. The letter concludes with the resignation of the author, a skilled fighter pilot, because of job frustration.¹ The pilot in question was a valuable commodity to the security of the nation, had done the job asked of him, and still could, but he would not—because of the Air Force.

Nevertheless, things are better now, right? Vietnam and the “hollow force” that followed were an anomaly—a period burned into the psyche of the American military and civilian leadership, full of lessons that, once learned, would prevent similar mistakes and similar losses of good people. Closer inspection reveals that the variables affecting the anomalous period following Vietnam are eerily similar to those for the Air Force’s current reality.

Exasperation at the tactical level equated to a crisis at the strategic level as Air Force leaders struggled to maintain a combat-capable service after Vietnam. Declining budgets, steady cuts in operations, and decreases in sortie rates plagued Air Force leaders and limited their ability to prepare for combat adequately.² James Kitfield addresses these challenges in his book *Prodigal Soldiers*, stating that “on any given day, half of the planes in TAC’s \$25 billion inventory were not combat ready because of some malfunction, and 220 aircraft were outright ‘hangar queens,’ unable to fly for at least three weeks for a lack of spare parts or maintenance.”³ These shortfalls existed concurrently with major modernization programs for the combat air forces (CAF), including the F-15 Eagle and the F-16 Fighting Falcon.⁴ Despite the modernization of aircraft, the pilot nearest to the flight line still had to make difficult decisions on a daily basis.

Pilots on the flight line continued to perform where they could, walking a dangerous line between safety and mission readiness. Not wanting to sacrifice

INTRODUCTION: DEAR BOSS

mission capability, they flew sorties with limited gas, advanced students before they had demonstrated proficiency in required training, and operated aircraft that had been structurally overstressed during an earlier sortie.⁵ Angered by these developments, junior officers expressed their frustrations among their colleagues and wrote emotional letters to senior leaders, not unlike the Dear Boss letter.⁶ Annoyances expressed in text were fueled further by an apparent disconnect between junior officers and senior leaders.⁷

Faith in the leadership's ability to lead was at a critically low point in the years following Vietnam. The mistrust started at the top and worked its way into the very culture of the Air Force. Gen Edward "Shy" Meyer, the Army chief of staff, coined the term *hollow force* in 1979 during a brief to President Carter at Camp David. His courage in stating the Army's inability to meet the needs of the nation did not reflect the other service chiefs' opinions, however. The Air Force briefing was "far more upbeat, with the chief[s] essentially telling Carter that their forces were willing and able to perform whatever mission the president tasked them with."⁸ With rhetoric of capability directly opposed to operational reality, many junior officers took their frustrations out in the last means available to them—with their resignations from the Air Force.

When the military became an all-volunteer force in 1973, the common Soldier, Sailor, Marine, and Airman possessed a greater means of influence. The Department of Defense (DOD) needed to retain more of the best people because the draft was no longer a continuous source of new recruits. Expressing discontent with their feet after completion of their initial enlistment, young warriors departed the armed services for ventures outside of the bureaucratic constraints of the military. Tim Kane observes that such an exodus "was a recurrent problem that the Pentagon had struggled with since at least the end of World War II, although the shift to an all-volunteer force in the 1970s and a consequent improvement in the quality of life had, it was thought, solved the problem."⁹ Dissatisfaction among Airmen, particularly pilots, was worrisome as training sorties continued to decrease and external pressures to meet quotas increased. Kitfield describes the rapid departure of aviators: "Pilots—each trained at a cost of roughly \$1 million—continued to desert the service in droves," with trends showing "a shortage of over 2,100 pilots . . . by the end of 1980."¹⁰ Chronologically, these problems are from the 1970s and 1980s, but conceptually, they share an equally disturbing similarity with difficulties today.

Taken together, budget cuts, decreasing sortie numbers, exasperation with combat capability, disconnection with leadership, an increase in perceived risk to pilots, major modernizations to the CAF fleet, and an impending pilot shortage could apply as equally in 2013 as in the 1970s. George Santayana

once wrote, “Those who cannot remember the past are condemned to repeat it.”¹¹ In this case, it seems that historical condemnation is knocking at the door.

Nearly 40 years after the original Dear Boss letter, similar issues to those that influenced many of the “best” aviators to leave active duty service resonate through current Air Force culture. A 2009 letter that opens with the same five words as the Vietnam-era Dear Boss letter is illustrative.¹² Written by an experienced F-15 pilot, the modern Dear Boss letter speaks of “doing more with less,” “poor leadership and micromanagement,” an Air Force suffering from an “identity crisis,” limited chance for officer progression unless instilled with a sense of careerism and “look[ing] good on paper,” prioritization of administrative functions over the mission, and instability.¹³ The years since the modern Dear Boss letter have been fraught with talks of sequestration, budget cuts, and personnel downsizing as American forces distance themselves from two decades of nearly continuous battle. Amid the turmoil, a robust media network can quickly capture and distribute mounting aggravation from junior officers and senior leaders, increasing the challenges decision makers face.

Cast from a similar mold as Vietnam-era headlines, reporting today captures the same woeful sentiments as senior leaders struggle to maintain combat capability. Secretary of Defense Leon Panetta remarked in November 2011 that additional cuts to DOD funding would “lead to a hollow force incapable of sustaining the mission it is assigned.”¹⁴ Echoing these remarks, Gen Martin Dempsey, chairman of the Joint Chiefs of Staff (CJCS), more recently stated that “sequestration will hollow out U.S. military forces faster than most Americans imagine” as money needed for “operations and training” will be limited.¹⁵ Despite struggling to field a capable force, senior leaders have rallied together to confront the problem. Reminiscent of General Meyer’s outspoken individual bravery during the Vietnam era, the joint chiefs have collectively warned Congress that the nation “is on the brink of creating a hollow force.”¹⁶ The positive amid all the negative press is that our senior leaders share an understanding of the future—unlike in the Vietnam era.

Cognizant of the challenges and strains experienced in the post-Vietnam era, today’s leaders seek to avoid the tribulations they experienced as junior officers. By avoiding the inherent “nature of the military man to salute and say ‘Can do,’ even when they clearly couldn’t do or knew they shouldn’t do,” today’s senior leaders have avoided the initial pitfall Vietnam-era leaders experienced.¹⁷ Air Force leaders have taken this a step further, issuing a memorandum necessitating “that the Air Force take immediate action to reduce our expenditure rate, especially in our operations and maintenance account[s],” in the hopes of staving off a crippling blow to capability.¹⁸ Capability and

money, however, are only a couple of variables affecting retention of the current generation of Air Force pilots. Safety is, and will continue to be, an issue aviators—entrusted with advanced aircraft and crews—take seriously.

Pilots during the post-Vietnam era were fortunate enough to fly the most advanced aircraft of their day. The F-15 and F-16 represented monumental steps forward in aviation design, allowing pilots to turn harder and fly faster at greater altitudes. Increased capability came with greater risk: harder turns equated to more gravitational forces exerted on the pilot while higher altitudes reached at greater speeds meant more exposure to the dangers of decompression and hypoxia. These challenges have existed for as long as aircraft have flown in combat, and men and women accept the risk that goes along with it. Current aircraft—for all their technological wizardry—are no different.

The F-22 has not been immune to similar challenges. Reports pertaining to aircraft safety on television shows like *60 Minutes*, Air Force Scientific Advisory Board investigations, and high-profile accidents have left the F-22 community not wanting for negative press. These uncontrollable factors take a toll on the human psyche, irrespective of the aircraft flown, as pilots balance their desire to serve in the armed forces against responsibilities to family. As the perceived benefits of serving languish against these responsibilities and the pull of a more stable life outside active duty increases, aviators are again speaking with their feet in numbers reminiscent of the late seventies.

As United States Air Forces in Europe (USAFE) commander, Gen Mark Welsh addressed the alarming departure rate in an e-mail to combat aircrew under his command. He cites the Air Force's rated personnel management system, which predicts a "300 fighter pilot shortfall in FY [fiscal year] 13 that could grow to over 1,000 by FY21." General Welsh goes on to express his "sincere thanks for your service and best wishes for every success in the future" and that "it's been an honor to have served beside you." However, he voices an institutional concern that the Air Force does not "really understand why you made the choice" to leave. Welsh acknowledges an "increasing ops tempo, fewer fighters, less flying, more non-flying jobs and an unclear sight picture," specifically for the fighter pilot community. Willingness to listen is a sign of leadership, but personally asking the right question on behalf of your people is visionary. The second part of Welsh's e-mail encapsulates this vision as he attempts to get at the "ground truth as you see it, not the filtered, watered-down" truth.¹⁹

General Welsh's acknowledgement of factors affecting pilot retention, paired with his understanding that something else is continuing to drive pilots out, indicates a problem requiring further examination. His solicitation of "the best fighter pilot[s]" for candid comments about why they are electing

to leave active duty serves as the genesis for this paper. Since the Air Force has previously encountered problems keeping rated officers and the variables influencing the current environment are strikingly similar to those experienced in the past, perhaps a new means of viewing the environment is required. According to Tim Kane in his book *Bleeding Talent*, “higher than normal attrition rates wouldn’t matter so much if it weren’t the young Mitchells, Nimitzes, and Eisenhowers quitting, but in the modern military, the cream of the crop,” the *best* the military has to offer, “tend to leave the fastest.”²⁰ This paper seeks to find alternative means to retain the Air Force’s best—to slow the exodus if you will—thereby strengthening the pool of human capital available to the nation for the future.

Overview

The importance of retaining the best rated officers is existential not only to the strategic future of the United States Air Force but also to its position as the preeminent air force in the world. For this reason, this paper seeks to answer three fundamental questions:

- (1) Does the Air Force have a rated officer retention problem?
- (2) What are the implications to the future of the Air Force if there is a problem?
- (3) Is there anything that the Air Force can do to fix the problem if one does exist?

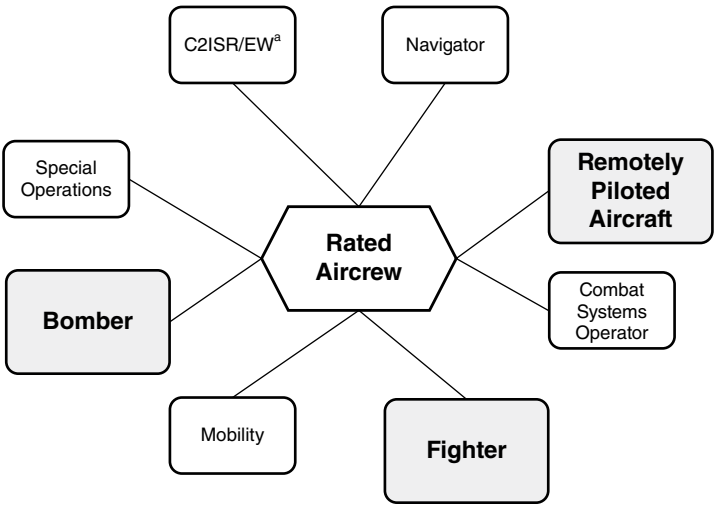
To answer these questions, this paper systematically explores the origin of our current problem by examining three rated communities.

This paper treats the Dear Boss letters as primary source documents instead of as pejorative texts written by pilots with a sense of entitlement. Treating the documents as such makes it possible to delve into the retention problem from the point of view of a line CAF pilot. By comparing the perceptions of these line pilots against those of senior leaders, perhaps the study will lead to a better understanding of how to deal with future retention problems.

To address these disconnects, this study focuses on the fighter, bomber, and remotely piloted aircraft (RPA) communities. This selection implies neither that they are more important than other rated career fields nor that rated career fields are more significant than nonrated career fields. However, as this paper’s title suggests, loss of capability due to unavailability of the best human capital within the CAF will lead directly to a rapid blunting of the Air Force’s combat spear. Critical shortfalls in practically any Air Force career field would

lead to the same blunting of the spear over time. However, without enough rated CAF officers, the analog problem of not having enough “1s” (rated CAF aircrew) to offset the “0s” (required CAF billets) will quickly reveal itself. The limited scope allows a salient problem within the Air Force to be addressed.

These three communities were chosen to isolate career fields with similar variables, thus reducing the disparity inherent with a broader scope of study. The narrowed focus keeps relatively constant variables such as education and training requirements, active duty service commitments (ADSC), institutional hierarchy, pay rates, bonus availability, and retention methods. Consequently, the analysis of retention trends within and across these communities will be more accurate. Figure 1 depicts the communities of interest selected for this study in the context of all rated officer career fields within the Air Force.



^acommand, control, intelligence, surveillance, and reconnaissance/electronic warfare

Figure 1. Communities of interest

This chapter described the origin of this research project as two letters that rated officers wrote during periods of military drawdown following extended wars. Chapter 2 clarifies the congressionally mandated budgeting and planning process that directly affects Air Force requirements. It also provides an example of what the “best” look like, focusing on the talented men and women trained by the Weapons Instructor Course (WIC) at Nellis AFB, Nevada. Finally, a brief discussion about current retention methods leads into retention trends for the communities of interest since 2000.

Chapters 3 through 5 highlight the three selected communities, treating each as a singular case study. Retention rates are examined for the fighter (chap. 3), bomber (chap. 4), and RPA (chap. 5) communities. Using aviator continuation pay (ACP) take rates, historical retention trends, survey results, and anecdotal conversations with acting or recently graduated squadron commanders provides a clearer picture of the variables influencing retention for the current generation of rated officers in each of these communities.

Chapter 6 synthesizes the aggregate results from all three case studies and identifies similarities and differences among the communities of interest through statistical analysis. Chapter 7 offers conclusions, recommendations, and implications for the Air Force as a whole, the CAF, and the targeted communities. Finally, a third Dear Boss letter, written as an epilogue, addresses the need to treat all communities within the Air Force differently with respect to retention methods.

Problem and Hypothesis Statements

The Air Force has always experienced cyclical oscillations of rated aircrew retention, but the ramifications of current trends could be more severe than in the past. Budgetary constraints and manpower reductions are contributing to short-term USAF decisions, which in turn directly influence its long-term strategic future. As a result, the fear of a hollow force is reemerging. In terms of human capital, this fear manifests itself in retention rates of the best rated aircrew. As rated aircrew in their tactical prime elect to depart active duty upon completing their ADSCs, a hollow force of human capital develops. Without the right tactical leaders, the Air Force could develop a hollow force in that its available human capital exceeds its technological capability.

The author hypothesizes that the Air Force has a retention problem in the CAF and that traditional retention methods like the ACP and Aviation Career Incentive Pay (ACIP) programs are insufficient for retaining the best rated officers from CAF communities. The author purposefully leaves the definition of the “best” as a vague principle, understanding that the contextual definition of the term is different for each of the communities of interest, scoped to include pilots from the fighter, bomber, and RPA weapon systems.

It is the author’s belief that the best rated aircrew within the three case studies make the decision to separate well before their Undergraduate Pilot Training (UPT) ADSC has expired and well before the bonus becomes available. Consequently, the Air Force needs to reassess its methods for keeping the best rated officers by analyzing contextual differences among the commu-

nities rather than applying a common solution for all. While programs like ACP and ACIP are successful in retaining *some* of the best rated aircrew, they do not retain *enough* of these officers, hampering the tactical future of the CAF in the short term as well as the strategic future of the Air Force writ large.

Objectives

This research was conducted to identify factors that influence the best rated aircrews to stay on active duty after their ADSCs are complete. The research variables presented to the communities of interest are (1) Air Force identity, (2) money and compensation, (3) promotion and recognition, (4) family and stability, (5) operations tempo, and (6) other life goals. The author postulates that influential variables vary in importance depending on the community in question (fighter, bomber, or RPA). For example, figure 2 depicts these variables in the context of the fighter community.

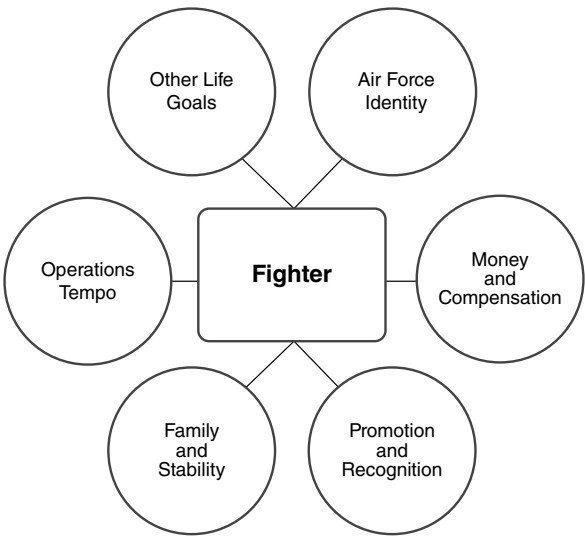


Figure 2. Influential variables

These variables will also differ at important career and family milestones. For instance, factors influencing a lieutenant in a fighter squadron will not be the same as those for a major in the same squadron. Identifying specific influences based on community (fig. 3) allows for focused research.

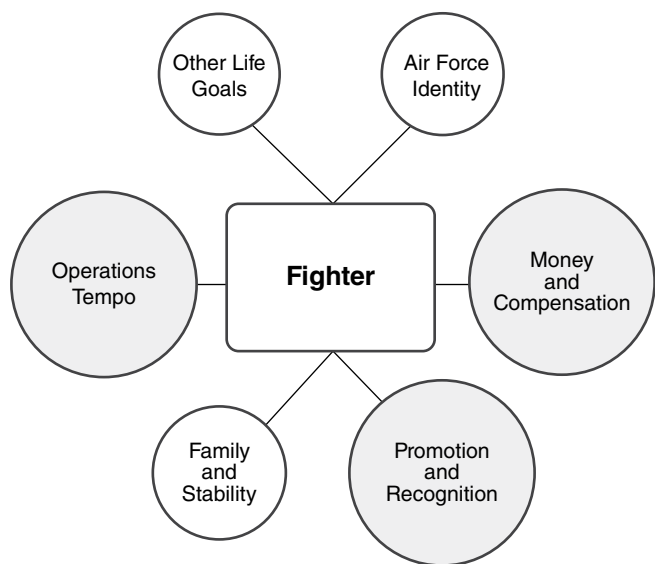


Figure 3. Example of specific influential variables for the fighter community

Isolating the motivating retention factors by community fosters the development of solutions for the unique problems each one experiences (fig. 4). The Air Force aims to retain rated aircrew primarily through the ACP, which helps answer only one variable completely (money and compensation) and the rest only partially, if at all. By discovering which incentives most influence specific communities at precise career points, perhaps the Air Force can establish methods more successful at retaining the best rated officers for our nation—as opposed to enough rated officers to fill the billets.

Methodology

The search for answers to these questions occurred through three primary methods. The first entails detailed analysis of the *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012 to identify retention rates by individual major weapons systems (MWS) communities and the Air Force writ large. These reports also identify historical ACP take rates for the MWS communities versus the Air Force in toto for the same period and provide granular detail by individual aircraft. While this data offers useful historical trends of retention within the Air Force, it does little to provide a predictive modeling.

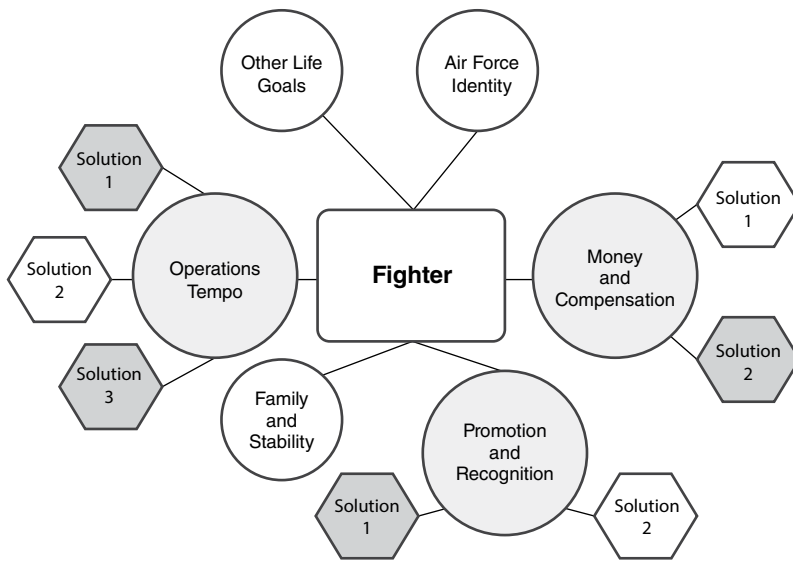


Figure 4. Example of specific influential variables for the fighter community with solutions

The second method of analysis leverages a survey administered 11–28 February 2013 to students attending Air War College (AWC), the School of Advanced Air and Space Studies (SAASS), Air Command and Staff College (ACSC), and the Squadron Officer College (SOC).²¹ It targets fighter, bomber, and RPA pilots taking in-residence professional military education (PME) courses at Maxwell AFB, Alabama.²² Solicitation for the survey went to 118 personnel, with 93 returning a completed survey for a 79 percent response rate. The survey pool represents a convenience sample since it consists solely of Air University (AU) students and denotes a limitation for the study that could admittedly skew the data set.²³ Based on the selection process for in-resident PME attendance, the author infers that survey respondents are among the top of their respective career fields as well as peer groups. Given the period for research and the scope of the project, this sample was an accepted limitation. Future studies pertaining to the same topic must include a wider sample pool, randomly selected from the entire Air Force, to ensure increased statistical validity of the results.

To offset the bias associated with the sampled community, a third research method was included. The author relied on interviews and anecdotal conversations with currently sitting or recently graduated operational squadron com-

manders from the three communities of interest. Each interview provides invaluable insight into the interworking of an operational squadron from the viewpoint of a frontline supervisor tasked to implement, enforce, and work within the policies and procedures put in place by the larger Air Force. Their contributions were insightful, often bolstering survey findings. However, similar comments from squadron commanders of different communities gave way to contextual differences behind the reasons for retention problems. This leads the author to believe that there is a need for the Air Force to change its current methods of retention by considering contextual differences influencing communities versus relying simply on traditional methods used in the past.

Notes

(All notes appear in shortened form. For full details, see the appropriate entry in the bibliography.)

1. Capt Ron Keys to Gen Wilbur Creech, commander, Tactical Air Command, letter, 1979. Written a few years after the end of the Vietnam War, this letter was an amalgamation of pilot concerns at the time. Captain Keys was not personally planning on resigning at the time and later became the commanding general of Air Combat Command. See app. A.

2. Kitfield, *Prodigal Soldiers*, 171.

3. Ibid., 175.

4. The F-15 Eagle first flew in July 1972 and was delivered to the Air Force in January 1974, while the F-16 Fighting Falcon first flew in December 1976 and was delivered in January 1979. USAF, "F-15 Eagle" and "F-16 Fighting Falcon," fact sheets.

5. Kitfield, *Prodigal Soldiers*, 171–73.

6. The author uses "junior officers" to describe company and field grade officers at the rank of lieutenant colonel (O-5) and below (i.e., first and second lieutenants, captains, and majors).

7. The author uses "senior leaders" to describe officers at the rank of colonel (O-6), general officers (O-7 through O-10), and civilian leaders like the secretary of the Air Force and secretary of defense.

8. Ibid., 200.

9. Kane, *Bleeding Talent*, 86.

10. Kitfield, *Prodigal Soldiers*, 175–76.

11. Santayana, *Life of Reason*, 284.

12. See app. B for the 2009 Dear Boss letter.

13. Maj Brian E. Biebel, F-15C instructor pilot and assistant director of operations, to peers in the fighter pilot community, letter, 2009.

14. DOD, "Statement by Secretary of Defense Leon E. Panetta on Supercommittee Negotiations," news release.

15. Jim Garamone, "Sequestration Will Hollow Out Force Fast, Dempsey Says," 17 January 2013, DOD website, <http://www.defense.gov/news/newsarticle.aspx?id=119040>.

16. Robert Burns, "Military Leaders Warn Congress of 'Hollow Force,'" *Military.com*, 17 January 2013, <http://www.military.com/daily-news/2013/01/17/military-leaders-warn-congress-of-hollow-force.html>.

17. Kitfield, *Prodigal Soldiers*, 200–201.

18. Morin and Spencer to all MAJCOM commanders, memorandum.

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19. See app. C for General Welsh's 25 April 2011 e-mail to all USAFE fighter pilots.

20. Kane, *Bleeding Talent*, 85.

21. See app. D for the Pilot Retention Survey and app. E for the e-mail solicitation of participants.

22. Credit is due to Mr. Tim Kane, whose book *Bleeding Talent* served as the genesis for the development of the survey used in this paper. Without his book and kind gesture of sharing his survey, development of this project would have exceeded the time allowed. Additional thanks to Dr. John Nagl for connecting the dots between Tim Kane and the author.

23. A *convenience sample* is a "statistical method of drawing representative data by selecting people because of the ease of their volunteering." Its advantages are the target population's accessibility and the researcher's ability to gather data more quickly. Disadvantages are not only "the risk that the sample might not represent the population as a whole" but also that "it might be biased by volunteers." *Business Dictionary.com*, s.v. "convenience sampling," <http://www.businessdictionary.com/definition/convenience-sampling.html>.

Chapter 2

Rightsizing and Requirements Explained

In January of 2013, Chief of Staff of the Air Force (CSAF) Mark A. Welsh released his “Vision for the United States Air Force.” In it he articulates the necessity for airpower, projected globally by the USAF in the air, space, and cyberspace domains. Most notable, however, is his view that “complex security and fiscal challenges demand that our Air Force develop innovative Airmen who find better and smarter ways to *fly, fight, and win*” (emphasis added), acknowledging that status quo thinking is no longer good enough. To flourish, asserts Welsh, the human capital of the Air Force—the Airmen—“have a role in ensuring that we remain the most technically proficient, best-educated, and best-trained air force in the world.”¹ The experience, education, and training he alludes to in this vision take years to develop and at a significant cost to the nation, but the result is a talented pool of the best rated officers. Retention of the best personnel possessing the right mix of these skill sets is paramount given the time and money invested in each of them.

Several variables affecting retention of the best rated officers are outside the USAF’s scope of control. A key constraint on the Air Force budget and authorized end strengths is the congressional budgeting and planning processes, discussed next.

Budgeting and Planning Processes

The DOD and the services that compose it are civilian-controlled organizations that draw their funding and end-strength authorizations directly from Congress. The Air Force provides a recommended budget and desired authorized end strength but ultimately operates within strictly controlled boundaries when developing its budget and force structure. The documents controlling force size and budget are the National Defense Authorization Act (NDAA) and the National Defense Appropriations Bill. The annual NDAA establishes authorized end strengths for military personnel as well as recommended funding levels for each service. While it authorizes a particular budget, appropriation of that money occurs annually through the appropriations cycle.

The annual appropriations cycle is the mechanism by which Congress considers funding for numerous activities, to include national defense.² The cycle begins when the president submits his recommended budget for the next FY

to Congress for consideration and debate.³ In the case of the national defense budget, the House and Senate Appropriations Committee—and in particular the defense subcommittees from each—examine the best means to allocate funds to their subordinate agencies. Further, agencies that fall underneath the defense subcommittees’ jurisdiction—in this case the Air Force—provide detailed justification to both the House and Senate for requested funding, primarily through testimony from agency officials like the secretary of the Air Force (SECAF) and CSAF.⁴ The timetable to achieve agreement generally involves heavy negotiations to resolve differences between the versions of appropriation bills passed by their respective chambers.⁵ Controlling negotiations are specific members of the appropriations subcommittees and full committees, who must agree to the entire text of the bill before it reaches the president.⁶

Once these collective bills become law, the Air Force and its sister services work to balance their force structures to meet national security strategy requirements based on each one’s appropriated monies and authorized end strengths. The influence of the NDAA and the appropriations bill process on retaining the best rated officers begins to reveal itself in Air Force planning practices—as initiated through the DOD’s annual Planning, Programming, Budgeting, and Execution (PPBE) process.

To provide a budget request to Congress and the president, the DOD executes the PPBE cycle yearly. Used as a vehicle to turn “vision, policy, strategies and plans into products and activities,” the PPBE lays the framework on which the services can build their requirements, leading eventually to an annual budget. Requirements, however, are not the driving factor behind the size of the budget; rather “it is set by the White House’s Office of Management and Budget, *conceptually* in advance of the budget build” (emphasis added).⁷ This conceptual outline of the budget—also known as fiscal guidance—is then conveyed to Air Force leadership. What then does it provide to senior leaders when advising them of force structure requirements? The answer lies in Bernard Brodie’s astute observation that changes in the “structure, equipment, and organization of our armed forces” are not easy. Rather, he indicates that decisions such as these “involve hard choices between costly alternatives within the constraints of an always-limited budget. These alternatives must operate in terms of their accommodation to both political (in the widest sense of the term) and technological realities. The intelligent preparation of each decision must require, somewhere along the line, the application of a great deal of special knowledge and hard work.” Brodie states that, more simply, “strategy wears a dollar sign,” and that Air Force leaders are well aware they must advise senior leaders based not on what they would like to have but

rather on what they can realistically get.⁸ The responsibilities of determining what is realistic and the acceptable levels of risk fall to the Air Force corporate structure (AFCS).

The AFCS is the agency tasked with ensuring that the Air Force strategy and vision fit within PPBE guidance. Options that the AFCS develops are generally in direct response to guidance from the “Air Force leadership, Office of the Secretary of Defense (OSD), Combatant Commands and sometimes Congress.” AFCS then provides a recommendation “for CSAF and SECAF approval that balances new requirements, current missions, and *risk* to create a new baseline that meets fiscal restrictions” (emphasis added).⁹ Balancing acceptable levels of risk against required personnel to accomplish this mission is a difficult undertaking, and, given the current fiscal environment, it becomes doubly so. The Air Force addresses this risk in its *Annual Planning and Programming Guidance* (APPG).

The APPG is the USAF’s principal programming guidance. Typically classified, the document focuses on core function master plans (CFMP) developed around the Air Force’s 12 core functions.¹⁰ The CFMPs “form a reference point for helping the service mold its strategic priorities, risks and tradeoffs.”¹¹ One of the biggest areas of risk for any service is rightsizing its active duty (AD) manpower. Having too many people means the Air Force pays astronomically high personnel budget costs. Having too few people results in the Air Force running the risk of being ill prepared for combat operations. Having too few of the right type of personnel—put differently, the best personnel—puts the Air Force in danger of creating a hollow force of human capital. So how does the Air Force address this pending shortage of the best personnel when it is simultaneously planning for drastic budget and personnel reductions? It begins with the “hard choices in an always-limited budget” Brodie spoke of earlier.¹²

Hard choices made by “bold leaders at every level who encourage innovation, embrace new thinking, and take prudent risks to achieve mission success,” conveys General Welsh, will ensure that more of the best rated personnel remain on AD to lead the Air Force now and in the future. The foregoing explanation of the bureaucratic process controlling the pool of rated officers is intended to frame for future innovative leaders the barriers they must work around—or as the general puts it, barriers we must go “over, not through.”¹³

The overview of presidential, congressional, and Air Force procedures as established in the NDAA, appropriations and PPBE processes, and APPG is not a complete picture of the budgeting and personnel management systems. It does, however, serve as a bridge between the complex environment of defense spending and strategic planning and the risks associated with a failure

to retain the best rated officers on AD. Reviewing the fluidity of requirements and funding—subject to change with the environmental realities presented during each FY—can mitigate the initial tendency to blame civilian leaders for shortfalls in spending and manning. Even for decision makers armed with this knowledge, however, the slow nature of the bureaucratic system that governs the funding process can prove exasperating. Nevertheless, it is up to the Air Force's bold, pioneering leaders to work within the system and ensure that the hollow force of human capital does not become a reality. Understanding the processes that determine authorized end strength serves as a foundation for a discussion of current Air Force requirements and challenges.

Requirements and Challenges

As noted, the Air Force submits recommendations through the NDAA and defense appropriations bill each year for desired end strengths and budget amounts. In FY 2012 the USAF was authorized 332,800 AD personnel.¹⁴ In FY 2013 the Air Force requested an end strength of 328,900 personnel, but the Committee on Armed Services recommended an additional 1,483 personnel for an end strength totaling 330,383 personnel.¹⁵ This represents a decrease of 2,417 personnel from FY 2012 but an increase over the Air Force's FY 2013 request. The increase was a result of Congress ordering that 18 Global Hawks originally programmed for retirement remain in operation.¹⁶ Deliberations pertaining to FY 2014 end-strength requirements have already started for the Air Force, and further reductions are expected.

Given the current fiscal environment, the USAF can expect drastic reductions in authorized end strengths in 2014. Elevated personnel costs and decreased budgets have forced senior leaders to evaluate the risks they are willing to take by downsizing the force to ensure personnel costs do not strip away combat capability.¹⁷ Make no mistake, however, that the primary way the Air Force plans to save money is through the reduction of personnel. It has been continuously downsizing over the past decade, with active duty, Guard, and Reserve end strengths decreasing by 48,000 personnel.¹⁸ The budget cuts threatened in sequestration exacerbated the balance question for USAF senior leaders, forcing them to consider more cuts of personnel.

Continued pursuit of balance between required personnel and combat capability led the CSAF, Gen Norton Schwartz, to ask how many AD personnel billets needed elimination to flatline the personnel budget. The answer was an astounding 46,467 personnel—nearly the same amount of total billets eliminated from all three components of the Air Force since 2004.¹⁹ Abolishing

that many personnel would be crippling to USAF capability and render the service incapable of performing the 12 core functions under its purview.

This reduction in force would be considered only as a triage measure. However, the Air Force is “already moving toward a 17,000 reduction in DOD civilian personnel,” thereby levying further responsibilities on an already task-saturated uniformed work force.²⁰ Reductions in end strength affect retention of the best rated officers in the Air Force (see chaps. 3–5). Just as contributory to the retention problem of rated aircrew is the reduction of combat-coded aircraft from the CAF fleet.²¹

Efforts to rightsize the force have resulted in significant reductions in aircraft numbers while generating multiple service life extensions to combat-coded aircraft in the USAF fleet. The FY 13 budget reduced the number of combat-coded fighter squadrons from 60 to 54 and eliminated 123 fighters from the inventory.²² Service life extension programs (SLEP) have been put in place for the F-16, B-1, and B-52 to extract more capability as the F-35 and the long-range strike bomber (LRS-B) struggle to mature as quickly as originally planned.²³ With limited end in sight for budgetary constraints, reduction in the number of available cockpits, and the extension of aging aircraft, rated officer concerns begin to focus on job security in the short term and experience levels in the long term. Modernization of the fleet will help solve the aging aircraft problem in the long term, but even that will come with negative effects for CAF aircrew.

The USAF is dedicated to modernizing the fleet of CAF aircraft to maintain its technological edge of near-peer competitors and remain the preeminent air force in the world. Former Air Force secretary Michael Donley states that “the need for modernization is pervasive across our Air Force.”²⁴ General Welsh echoes Secretary Donley, expressing the need to “modernize our capabilities to reduce operating costs while attaining desired effects with greater persistence, survivability, longer range, and more versatile payloads.”²⁵ The long-term benefits gained through modernization come with both short- and long-term costs.

The advantages achieved through a reduction in future operating costs because of modernization will depend on diminished current expenditures in other areas to pay for it. Aforementioned weapon systems like the F-35 and the LRS-B—intended to modernize the CAF fleet—received full funding in the 2013 NDAA and the 2013 DOD Appropriations Act, totaling \$3.1 billion and \$291.7 million respectively.²⁶ The long-term benefits achieved by funding these modernization programs—a priority—come at the short-term costs of flying hours and training opportunities. Rated aircrews without such prospects are more apt to depart AD for other ventures.

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Capability gained through training and flying hours for rated aircrews in the fighter, bomber, and RPA communities is critical for current tactical competency and future strategic credibility. See table 1 for an example of the hours that different CAF communities require for classification as an experienced pilot. Both competency and credibility are at risk with reduced training and flying hours due to fiscal constraints. Senior leaders have reduced non-mission-essential training and nonreadiness flying hours to mitigate current budgetary concerns, but Donley emphasizes that “there is no way *not* to impact training [or] flying hours” if further cuts occur (emphasis added).²⁷ Concerns at the Air Force level about training are also resonating with the Joint Chiefs of Staff (JCS).

Table 1. Required flying hours for “experienced” qualification by community

Community	Primary aircraft inventory hours required ^a				
F-16 (Fighter)	500 total hours PAI	or	1,000 total hours with 300 PAI	or	100 hours PAI and previously fighter experienced
B-1 (Bomber)	1,500 hours with 300 PAI	or	1,250 total hours with 500 PAI	or	1,000 total hours with 750 PAI
MQ-9 (RPA)	200 hours PAI	or	Previously experienced in another rated community and 100 hours PAI	or	Previously experienced as A/C ^b and 150 PAI hours

*Developed from a review of Air Force Instruction (AFI) 11-2F-16, *Flying Operations*, vol. 1, *F-16 Pilot Training*, 11 August 2011; AFI 11-2B-1, *Flying Operations*, vol. 1, *B-1 Aircrew Training*, 23 December 2011; and AFI 11-2, MQ-9, *Flying Operations*, vol. 1, *MQ-9—Crew Training*, 3 June 2008, which describe aircrew training and qualifying standards.*

^aPrimary aircraft inventory (PAI) refers to aircraft assigned to meet the primary aircraft authorization. Rated officers can accumulate hours in multiple aircraft, but PAI hours are required to obtain the prerequisite experience in specific weapons systems for future upgrades in the same system.

^bAircraft commander (A/C) upgrade is unique to the bomber community. It is the first opportunity for pilots to gain responsibility for the entire crew of the aircraft, not just their individual crew position.

JCS chairman (CJCS) Gen Martin E. Dempsey has expressed dire concern about training and future readiness for all of the DOD. He believes that the armed services—and the Air Force in particular—will be unprepared in a year because of a lack of flying hours and live-fire training. The chairman takes this a step further, stating, “We’ve got the people. We’ve got the equipment that we need, but we won’t have the ability to train.”²⁸ Short-term tactical incompetency caused by a lack of flying hours and training opportunities is recoverable in a relatively short amount of time. Less easy to overcome—and with longer lasting effects—is the loss of strategic capability for the Air Force writ large as the less experienced rated officers of the CAF today become the less experienced senior leaders of the Air Force tomorrow.

Lack of experience in the future senior officer corps of the CAF will have a direct causal link to the projected reduction in current training opportunities and flying hours. A major determinant in the progression of fighter, bomber, and RPA pilots is milestones associated with flying hours. For example, a pilot in a fighter squadron will generally progress through qualifications as a wingman, flight lead, instructor pilot (IP), and evaluator at a rate coincident with his or her accumulated flying hours and number of years operating aircraft. These milestones ensure upgrading pilots have attained a quantifiable level of competency, credibility, and proficiency in their weapons system before moving into a position of increased responsibility.

Qualitative in nature, but equally as important, is the argument that mandated hours are the *minimum* required for safe entry into an upgrade. This view stems from the adage that the procedures regulating the upgrade and operation of combat aircraft are written in blood. That is, many men and women have died in this business of flying fast jets, which has resulted in each weapons system regulating the minimum hours needed to upgrade safely. See table 2 for examples of flying hours required for upgrades by community. As alluded to in chapter 1, combat pilots will do many things in the interest of accomplishing the mission. But when safety becomes an issue, many will consider grounding themselves or walking away completely. Reduced flying hours and training opportunities diminish safety. Similarly, projected reduction in training and hours will moderate the accomplishment of upgrades by extending the amount of time required to complete them.

Table 2. Example of flying hours required for upgrades

Community	Primary aircraft inventory hours required		
	FLUG ^a	IPUG ^b	MCUG ^c
F-16 (Fighter)	300 hours PAI	500 hours PAI	Squadron commander's discretion & a 4-ship FL ^d
B-1 (Bomber)	200 hours PAI and 15 flights as an A/C	Squadron commander's discretion	Squadron commander's discretion
MQ-9 (RPA)	n/a	200 hours PAI	n/a

*Developed from a review of Air Force Instruction (AFI) 11-2F-16, *Flying Operations*, vol. 1, *F-16 Pilot Training*, 11 August 2011; AFI 11-2B-1, *Flying Operations*, vol. 1, *B-1 Aircrew Training*, 23 December 2011; and AFI 11-2MQ-9, *Flying Operations*, vol. 1, *MQ-9—Crew Training*, 3 June 2008, which describe aircrew training and qualifying standards.*

^aFlight lead upgrade (FLUG) is the first opportunity for rated aircrew to be responsible for multiple aircraft in a formation.

^bInstructor pilot upgrade (IPUG) is the first opportunity for rated aircrew to instruct other rated aircrew going through upgrades.

^cMission commander upgrade (MCUG).

^dFour-ship flight lead (FL) denotes pilots qualified to lead three other aircraft in addition to their own.

As flying hours and training opportunities decrease, calendar time required to maneuver individual pilots through the linear upgrade program will increase. More relative calendar time for these upgrades will have one of three effects, each incurring a certain amount of risk.

- (1) Rated officers will miss upgrade opportunities due to a backlog created by those currently in or waiting to go into an upgrade. Risk incurred: missed upgrade opportunities place talented rated officers behind their peers for progression.
- (2) Rated officers enter upgrades on a waiver to the established entry minimums to avoid backlogging the system. Risk incurred: allows talented rated officers to upgrade on an individual basis, albeit with less experience than desired.
- (3) Entry requirements reduced to mitigate the increased amount of time spent waiting for entry into, or actively in, an upgrade. Risk incurred: decreases the overall experience level of a community to ensure mission readiness.

These effects—and the risks that go along with them—lead to an insidious loss of experience that is displayed over time. In any case, an altered definition of what comprises the “best” rated officer manifests. This definition affects retention of rated officers, as exemplified by some of the best of the CAF—at Nellis AFB.

What Do the “Best” Look Like?

Viewed as a microcosm of USAF culture, Nellis epitomizes what the Air Force as a whole has to offer. Many of the most promising officers from the air, space, and cyber domains converge there to learn their craft in an aggregate environment. Contained within the fences of Nellis is the United States Air Force Warfare Center, whose mission is to “shape the way our force fights through Advanced Training, Operational Testing, and Tactics Development in Air, Space and Cyberspace at the Operational and Tactical levels of war.”²⁹ Specifically leading the CAF charge to shape the fight are the 57th Wing and USAF Weapons School (USAFWS).

Graduates from the Weapons School are the Air Force’s finest instructors and tacticians, and as such, their acquired knowledge exemplifies what the best of rated officers look like.³⁰ As a result, the process to obtain a slot to the Weapons Instructor Course is understandably competitive and the skill sets acquired by a graduate highly sought after. In a 2003 address to AFWS graduates, Secretary of the Air Force James G. Roche elucidates some of the expectations for “patch wearers” and what they symbolize:³¹

You will be asked to build more, in less time, with less resources, to a higher degree of accuracy than you might have thought possible. As a weapons officer, you will be expected to lead America’s finest through situations that you have yet to even ponder. As a weapons officer, you are expected to take every success, every failure, every challenge and examine it, analyze it, and debrief it and its possible consequences—and fine-tune your skills with what you learned from it.

Many think that tonight is about receiving some type of “master’s of science in air-power.” As someone who has gone through a fairly rigorous series of graduate programs, including a doctoral course of study . . . let me assure you, Weapons School is much more. There is no master’s recipient that is so universally recognized in the combat air forces as an Air Force weapons officer. No master of arts or sciences recipient fully embodies the expertise, teamwork, sense of excellence and warrior-spirit like an Air Force weapons officer. And there is no master’s recipient who carries a target on their arm that says to all: “*ask me, send me, task me, or demand of me*” (emphasis in original).³²

Demands on the patch wearers of the CAF are certainly immense—a point made intimately aware to WIC applicants. They must acknowledge in writing their understanding of their obligations if selected. Rated officers desiring one of the coveted slots must state that “if selected for WIC, I understand I will be required to fulfill 3 years continuous, and 5 years total, Weapons Officer duty. I am a worldwide volunteer for any Weapons Officer position required by the needs of the Air Force.”³³ Knowledge of these requirements up front understandably prevents some from applying, and the reasons for doing so are their

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own. However, those chosen to attend and who then graduate from this prestigious course represent the best of the rated officers used in the CAF.

This is not to say that the only rated officers worth retaining are graduates from the USAFWS. Arguably, as many of the best rated officers do not attend the USAFWS as do attend. Since finite slots for the WIC limit the number of attendees and graduates per year, some of the best officers are unable to attend. Table 3 highlights USAFWS slots available each year by community as compared to the number of rated Air Force officers within the same community.

Table 3. WIC entry requirements by community

Community	Requirements prior to class start date (CSD)				
	Rank ^a	Experience	Hours in PAA ^b	Qualifications	Maximum TAFCS ^c
Fighter	O-3	Normally 2 years ^d	300 total hours 50 IP hours	6 months as IP prior to CSD	9 years
Bomber	O-2 or O-3	2 years in PAA	50 hours of IP time	6 months as IP prior to CSD	10 years
RPA	O-2 through O-4	Not specified	300 total hours 75 IP hours	6 months as IP prior to CSD	9 years

Developed from Air Combat Command/A3, to all active duty, Air National Guard, and Air Force Reserve Command (AFRC) USAFWS WIC 2013-B selection board applicants, memorandum, 18 December 2013.

^aO-2 is a 1st lieutenant; O-3, captain; and O-4, major.

^bPrimary assigned aircraft (PAA) is the weapons system to be operated during training.

^cTotal active federal commissioned service date is the amount of time in the military after being commissioned as an officer.

^dNormally, it is required that you have a certain amount of time flying the aircraft, but it is not applicable for all platforms. For example, the F-22 does not require a specific amount of calendar time operating the weapons system.

It is precisely these rated officers—and those aspiring to be like them—whom the Air Force should be retaining. Unfortunately, these same officers are leaving AD for other opportunities. Reasons for their departure are analyzed in chapters 3–5. Regardless of the community, however, their exodus leaves the AD Air Force driving toward short-term tactical mediocrity and a long-term deficit of the best strategic leaders. Departure of the best officers is already being felt at Nellis and will continue to ripple throughout the CAF as time progresses without a change in retention methods. Squadron commanders are the first link in the supervisory chain to shoulder this problem, and they are concerned.

Squadron commanders are beginning to feel the strain created by the departure of the best rated aircrew from their ranks. An interview with the commander of the 433d Weapons Squadron, which trains the Air Force's newest F-15C and F-22A WIC students, discussed his experiences and frustrations over the past two years. In a four-year period, the 433d graduated 38 AD officers as new patch wearers for the Air Force. Out of those 38 WIC graduates, 17 (44 percent) elected to leave AD after their first assignment to be instructors for the Guard or Reserve or for other opportunities.³⁴ Further exacerbating his problem is the departure of his Weapons School instructors.

Those asked to return to Nellis as instructors at the Weapons School are the best tactical operators in their respective platforms, with a natural ability to teach and lead new WIC students. An F-15C WIC squadron has only eight pilots, as compared to an operational F-15C squadron that has between 18 and 24 pilots. The difference is that each of the WIC squadron pilots has graduated from Weapons School and is a qualified weapons officer, whereas an operational squadron would normally receive only one weapons officer. Loss of one WIC instructor can be devastating to the daily operations of a squadron at the USAFWS.

In a one-year period, the 433d commander lost two of his valued WIC instructors to 365-day deployments, except they never went. In both cases, these officers elected to leave AD entirely, taking their expertise and future leadership capability with them to the Air National Guard (ANG) and leaving the 433d commander undermanned.³⁵ This is one of many similar stories, repeated all too frequently these days across all weapons systems in the CAF. As more aviators of this caliber elect to leave AD, the number of officers with the right experience and qualifications to serve in leadership positions—like squadron commander—decreases. This has a psychological effect on young pilots as well.

Young lieutenants arriving at their first flying squadron will study the career of their new commander, striving to emulate the path that made that officer successful. Two things determine the credibility of a commander in the eyes of a new lieutenant.³⁶ The first is leadership style. Whether it be aggressive, passive, angry, or indifferent, these new officers simply want to know if their commander is going to take care of them. The second credibility determinant is qualifications—the path trod to become a CAF flying squadron commander. If too many of the best leaders have left AD before they reach squadron command, the leaders that remain, while satisfactory, may not inspire the same grand aspirations that have made the CAF great.

Lofty aspirations and the desire to excel—both traits of the best rated officers—become less desirable when viewed as unnecessary. In other words,

these lieutenants may ask themselves, If my commander hasn't hit these milestones, why should I? A graduated F-22 squadron commander observes that if the next generations of instructor pilots are getting out—the high-caliber pilots—who makes up the new IPs? It is probably someone who was rushed through the upgrade, with half the experience, to start teaching the next round of less experienced pilots. At some point, IPs who lack experience, training students who lack experience, will degrade capability. He goes on to suggest that the pool of high-caliber officers left to take command positions is far smaller than it should be, leading to further degradation.³⁷ Failure to retain the best rated officers now will lead to a continued drive toward mediocrity in the future.

The USAF does not want, nor can it afford, to be stuck in the momentum of this cyclical pattern. In an attempt to oppose the momentum, and in the hopes of reversing the trend of departure, the USAF uses monetary funds from separate programs to retain as many of the best rated officers possible.

Methods of Retention

The two most prominent means of retaining rated aircrew in the USAF are the Aviation Career Incentive Pay and Aviator Continuation Pay programs.³⁸ Each program utilizes differing monetary amounts, presented to rated aircrew as a supplement to the base pay that the president and Congress have set.³⁹ The use of bonuses to retain rated personnel is not reserved solely for pilots or rated aircrew, nor is it unique to the Air Force. The DOD uses special and incentive pays across all branches of service, for officer and enlisted personnel alike, as a means of enlisting and retaining the most qualified personnel.

DOD use of incentive pay and bonuses to manage the size and composition of its force structure is common—and expensive. From 2006 until 2010, the Army, Navy, Marines, and Air Force accounted for nearly \$11 billion dollars in bonuses paid to service members as part of an enlistment or reenlistment package.⁴⁰ In this period, the Air Force accounted for only 9 percent of the total DOD amount contracted, or approximately \$1 billion.⁴¹ This illustrates that the Air Force may have maneuvering room when requesting additional monies for personnel retention. Interestingly, every service except

the Army used the preponderance of contracted funds for reenlistments versus initial enlistment.

More specifically, the Air Force attributes the greater expenditure on reenlistment to competition from the civilian sector, which values the skills and experience attained by Airmen in service.⁴² Understandably, the dollar amounts allocated for bonus and incentive funds are a lucrative means for any service to retain critical personnel. The ability to offer incentives became more challenging as the total amount given to the services for this purpose reduced steadily from 2006 until 2010. During this period, the monies Congress allocated for bonus and incentive pay drastically declined across all services. In FY 2010 the DOD contracted \$1.2 billion as compared to the \$2.8 billion allocated in 2008, a total reduction of 58 percent.⁴³ These severe reductions, however, did not affect the USAF as significantly as the other services.

While total monies allocated to the DOD for use as bonuses decreased, the USAF experienced an increase of bonus and incentive pay during the same period. From 2006 until 2009, the contracted amounts increased from \$100 to \$352 million.⁴⁴ Critically manned career fields, easily identified within each service, benefit the most from the bonus pay. Remarkably, the services have a difficult time “identifying the most cost-effective bonus amounts” to award these critically manned career fields.⁴⁵ As the budgetary purse strings continue to tighten, ACIP and ACP tactics to retain critical specialties will become increasingly problematic for service leadership to manage. Thus, the USAF will have to adjust the way it manages the ACIP and ACP programs.

These programs receive funding through different sources of money, each falling under various sections of regulatory guidance that affect their flexibility and utility as retention methods. ACIP is regulated by *United States Code (USC)*, Title 37, section 301a, “Incentive pay: aviation career.”⁴⁶ ACIP defines the amount paid to aviation personnel from each of the services based on the years of aviation service (YAS).

Eligibility to receive monthly installments of the ACIP begins the day personnel enter aviation training and can extend through 25 YASs; this system has been in use since 1974.⁴⁷ To maintain eligibility, an officer must perform operational flying duties for 96 months (eight years) of the first 144 months (12 years) and for 144 months (12 years) of the first 216 months (18 years) of aviation service.⁴⁸ Figure 5 depicts the current monthly ACIP for eligible officers.



Figure 5. Aviator career incentive pay scheduling by years of aviation service.
(Developed from USC, Title 37, sec. 01a.)

Col Charles E. Metrolis succinctly describes the reason for this bell-shaped curve: “The benefits of increased pay in the middle of the scale represent a retention method targeting the ‘experienced’ pilots who have completed six years of aviation service.” He further notes that as retention rates in the target year group of 6–12 YASs continued to decline in the 1980s, the Air Force considered several alternative means of increasing retention rates. The resultant decision was the ACP program, instituted in 1989.⁴⁹

The Aviator Continuation Pay program, while still controlled by USC, Title 37, diverges from the Aviation Career Incentive Pay program in significant ways. Whereas the ACIP program establishes the set amount of monetary compensation authorized for all rated officers, regardless of service, section 301b of Title 37, “Special pay: aviation career officers extending period of active duty,” offers flexibility to individual services for retention.⁵⁰ The Air Force ACP program, governed by Air Force Instruction (AFI) 36-3004, authorizes the bonus to rated officers who have completed their ADSC, are qualified for flying duty and receipt of flight pay, and are below the grade of O-7 with no less than six and no more than 24 years of total aviation service.⁵¹ Further, monetary amounts are at the discretion of the individual services as long as total expenditure does not exceed \$25,000 per year for each qualifying officer.⁵² The combination of the ACIP and the ACP was strong in concept but still proved less than ideal in retaining targeted personnel.

Primarily developed as a means of slowing the “mass exodus of military pilots to the civilian sector,” the ACP program has experienced tribulation as an effective retention method.⁵³ Initially offered in 1989 as a \$12,000 yearly

retention bonus up to the 14th year of commissioned service, the ACP successfully retained only 66 percent of those eligible—the majority of whom already had over 10 years of service.⁵⁴ Notably, the targeted year group of young rated officers with less than seven years of service signed the bonus at a lowly 35 percent. Realizing this initial shortfall, Air Force leaders would restructure the ACP program multiple times in the 1990s to retain the right number of rated officers.

Throughout the 1990s, Air Force leaders continuously adjusted the manner in which the ACP program operated by modifying the payout amounts and commitment durations. In 1991 eligible pilots could receive half of their total ACP amount up front. In 1998 the total amount offered went from \$12,000 to \$22,000 for a contract signed through 14 years of commissioned service.⁵⁵ That same year, the Air Force offered short-term contracts of one to three years valued between \$6,000 and \$12,000.⁵⁶

The most sweeping change occurred with the FY 2000 NDAA's approval of ACP agreements to rated officers extending as far as 20 or 25 YASs.⁵⁷ When retroactively applied to earlier year groups, the FY 2000 ACP was now available to over 8,000 personnel at eight times the monetary worth of the FY 1999 ACP.⁵⁸ The historical take rate of the ACP program continued to fall throughout the 1990s despite these adjustments, eventually reaching a 30 percent take rate in 1998. As we have seen, two of the approaches that the Air Force uses to maintain a stable pilot force are ACIP and ACP. A tertiary system attempts to control for fluctuations by adjusting required time of service resulting from Air Force investment in personnel.

The Air Force's investment in the form of training, education, and bonuses for personnel incurs a predefined ADSC for additional service. Controlled by AFI 36-2107, *Active Duty Service Commitments*, the ADSC system not only ensures that taxpayers get an appropriate return for their investment in military personnel but also communicates separation and retirement eligibility requirements for Air Force service members.⁵⁹ Like the ACP program, the ADSC system has fluctuated in an attempt to mitigate retention problems.

Investment in rated officers necessitates an adequate amount of payback to the Air Force for training received. Increasingly complex and expensive aircraft require better trained pilots to operate them. While not directly linked, ADSCs have continued to increase since the early 1960s. Pilots who graduated from UPT and received their wings from the 1960s through the 1980s incurred a six-year commitment to the Air Force.⁶⁰ In 1987 the ADSC for a UPT graduate increased to seven years and in 1988, to eight years.⁶¹ This ADSC remained stable until 1998, when a UPT graduate incurred a 10-year

service commitment.⁶² With each subsequent increase in ADSC, the Air Force created a buffer zone of time to mitigate retention problems.

By increasing the ADSC to 10 years in 1998, the Air Force created a two-year buffer zone for personnel manning in which very few rated officers were able to separate from AD. This buffer zone is at the cusp of elimination as the first graduates under the adjusted ADSC enter the window for separation. To the Air Force's dismay, the retention picture may be getting worse as opposed to getting better. Limited funds created by budgetary constraints, the threat of sequestration, decreased training opportunities, and the potential reduction of flying hours all contribute to the impending lack of combat readiness described earlier. Exacerbating the problem is the need to keep qualified rated officers in the cockpit to make up for shortfalls. This denies some pilots the opportunity for highly valued career broadening opportunities that are in some cases a requisite for career progression.

The USAF has long valued depth and breadth of exposure for its officer corps, but recent trends indicate that career-broadening opportunities could become scarce if aircraft sit pilotless. Career-broadening opportunities like professional military education, staff jobs, and joint assignments continue to reduce for rated aircrew. While many—if not most—pilots will joke about never wanting to leave the cockpit, the necessity placed on completing career-broadening opportunities strikes close to the heart for all individuals considering the Air Force as a career, and it begins very early.

After completing initial training in a primary weapons system—whether an F-22, a B-1, or an MQ-1—the emphasis on broadening elements of a career to be competitive for promotion begins. These include, but are not limited to, obtaining a master's degree, completing SOC in correspondence to be competitive for an in-residence slot, and completing SOC in residence to be eligible for ACSC in correspondence. This cycle repeats for future PME schools, eroding at an officer's already limited but highly valued time. Failure to accomplish any one of these requirements at prescribed periods, however, places the officer at a statistical disadvantage when vying for promotion.

This situation creates a dilemma that could exacerbate the rated aircrew's decision to separate from AD. Unfilled cockpits and decreased flying hours will necessitate that qualified rated aircrew remain with their current weapons system for longer periods to ensure combat readiness and aircrew in aircraft. When rated officers cannot accomplish career broadening because of manning shortages, the resultant perception is that career progression is out of their control since the prerequisites are unobtainable. This outlook makes the decision to separate more practical, and the Air Force loses future leaders in the process.

Career-broadening opportunities facilitate leadership development. Al Robbert from the RAND Corporation states that the “Air Force, like all institutions, tends to draw senior leaders from the core mission of the organization, and that’s flying and fighting.” He adds, “If the fighter pilots are not getting the development in terms of experience in joint staffs and air staff and other places . . . they’re not going to be sufficiently prepared to assume senior leadership roles in the future”—a statement equally applicable to all rated aircrew given the current operational environment.⁶³

Any one of these factors alone paints a dire picture for the future of the Air Force. When viewed in conjunction with their potential effects on the home and family, the retention picture problem becomes even bleaker. As a result, the Air Force community could experience drastic reductions across all rated career fields once officers reach the end of their ADSCs. With the perspective of the USAF’s past retention methods (from 1974 until 2000), we move now to its current approaches and their effects on the CAF.

Retention since 2000

Since 2000 the Air Force has enjoyed a steady rise in the overall ACP take rates among all rated aircrew.⁶⁴ The overall ACP take rate has increased from 32 percent in FY 00 to 67 percent in FY 12.⁶⁵ In that 12-year period, the highest ACP take rate occurred in FY 10, topping out at 76 percent.⁶⁶ The lowest take rate was in FY 01, bottoming out at 30 percent.⁶⁷ See figure 6 for the overall take rates by FY from 2000 to 2012. Statistically speaking, the ACP take rate would indicate a healthy rated force, an argument further bolstered by the number of rated personnel losses over the same period.

From FY 00 until FY 12, the USAF has seen a continued decrease in the number of rated aircrew lost to separations, retirements, promotions to colonel, or groundings.⁶⁸ A rated crew member who falls into one of these four categories, regardless of personal choice in the matter, becomes part of the pool of pilots categorized as “eligible for loss.” The highest number of pilots in this category was in FY 00, with 2,728 pilots. Of those, 1,637 were actually lost, including 1,119 who elected to separate from the Air Force.⁶⁹ The lowest number of pilots categorized as eligible for loss occurred in FY 10, with 1,087 pilots. Of those, 596 were actually lost, with only 142 electing to separate.⁷⁰ See figure 7 for the total number of pilots considered eligible for loss, actually lost, and lost due to separation from FY 00 to FY 12. Collectively, the ACP take rates and pilot losses by fiscal year look promising. The period from 2000

until 2012, however, presented many contextual challenges for the United States, DOD, and USAF that influenced these numbers in different ways.

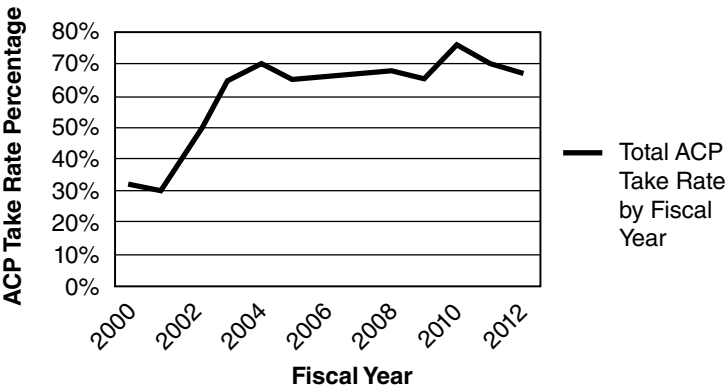


Figure 6. Aviator continuation pay take rates by fiscal year. (Developed from 2000–12 AFPC Rated Officer Retention Analysis reports [see bibliography for individual reports].)

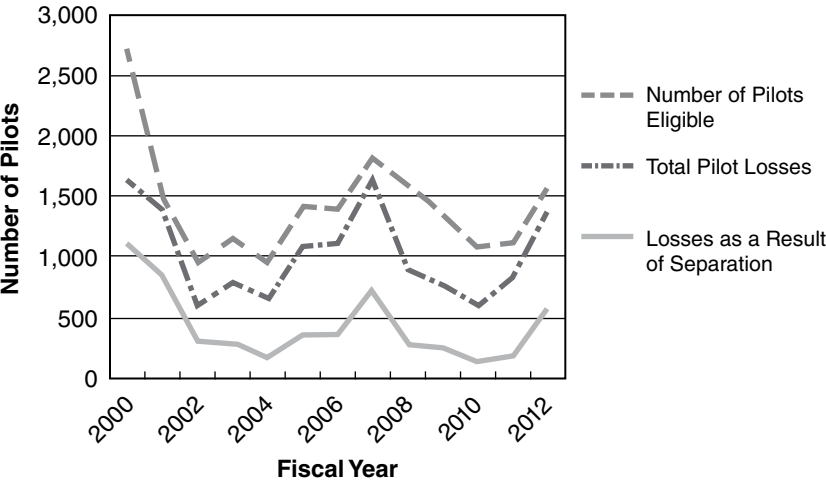


Figure 7. Pilot losses by fiscal year. (Developed from 2000–12 AFPC Rated Officer Retention Analysis reports [see bibliography for individual reports].)

Environmental Influences

Domestic and global events since 2000 have contributed to rated personnel's decisions to stay in or separate from the Air Force. For instance, prior to the events of 9/11, the airline industry held a great deal of sway on the USAF's retention of rated aircrew. A study in 1998 by Capt John H. Kafer indicates that at the time, the "major airlines relied on the Air Force to supply nearly 50% of their pilot hiring needs" and estimated that by the year 2000, the airlines would "employ approximately five times as many pilots" as the Air Force.⁷¹ Following the events of 9/11, all predictions of future hiring by the airlines were set aside as the nation attempted to recover from the devastating attacks.

In the post-9/11 world, environmental shifts for the DOD and Air Force were noticeable. The commencement of hostilities in Afghanistan in 2001 and Iraq in 2003 accelerated the need for rated aircrew—specifically combat-rated aircrew for the CAF. Additionally, initiation of the Air Sovereignty Alert and Operation Noble Eagle (ONE) missions required greater CAF operations than in preceding years.⁷² One can surmise that these factors, paired with decreased hiring by the airlines, had a great impact on Air Force retention. As the first decade of the twenty-first century continued, however, many of these trends began to reverse.

Pivotal events from the early years of 2000 experienced a reversal of course as the decade wore on. In December 2011, the United States officially withdrew from Operation Iraqi Freedom (OIF) and expects to withdraw from Operation Enduring Freedom (OEF) completely by 2014. Combined costs thus far for OEF, OIF, and ONE total \$1.283 trillion.⁷³ Massive war costs left the DOD and US government floundering to find ways to control future costs. Recalling earlier discussion, one of the primary means levied by all service chiefs is the downsizing of their respective forces. Continued economic uncertainty and the threat of sequestration most certainly affect current retention rates.

American families continue to recover from a slumping economy, poor job availability, and a slowly rebounding housing market. A pervasive lack of confidence in the future wields undeniable influence over retention rates of rated aircrew. Not surprisingly, the Air Force Personnel Center (AFPC) FY 2011 rated officer retention report addresses the correlation directly: "Pilot inventory grew by approximately 3 percent [in 2011] due to continued higher than normal retention rates. We expect this trend to continue until the economy really picks up and the job market improves."⁷⁴ Although historic retention rates have been high, many of the best continued to leave despite the eco-

nomic austerity. With an expected improvement in the economic and housing markets, the Air Force should be wary of rapidly decreasing retention rates.

As the economic, job, and housing markets recover, the Air Force should pay close attention to the rated officer communities. Freddie Mac's vice president and chief economist, Frank Nothaft, recently remarked that "as the broader economy heals, expect to see more good news with house prices continuing their recent upward trend, and home sales and housing starts continuing to post strong growth rates. The macroeconomic recovery through 2011 helped to forestall further erosion in the depressed housing market. In return, housing is now 'showing some love' by contributing to economic growth, perhaps by adding close to 0.5 percentage points to 2013 GDP growth."⁷⁵

Further adding to the complex problem for retaining rated officers is the burgeoning airline industry. Forecasts for hiring within the aviation industry are some of the highest seen in history. A recent Boeing Company estimate projects a need for "approximately one million new commercial airline pilots . . . by 2031, including 460,000 new commercial airline pilots."⁷⁶ Contributing to the need for more airline pilots is the growing worldwide demand for air travel, rapid growth of travel in Asia, and an increase in commercial airline pilot retirements.⁷⁷ In 2007 the federally mandated retirement age for commercial airline pilots increased from 60 to 65.⁷⁸ The resultant exodus of pilots reaching this milestone began in 2012 and will escalate over the next few years.⁷⁹ If Captain Kafer's analysis is indicative of the future, the Air Force should expect a preponderance of its best rated officers to consider separating for a career in the commercial aviation industry.

Summary

Rated officer retention is a problem that haunts senior leaders because it affects the core missions of the Air Force; failure to retain enough of the best officers could result in dire consequences for the service and nation. Senior Air Force leaders work within a bureaucratic system to provide a service capable of projecting global military power through air, space, and cyberspace. Often, working within this system requires tough decisions and sacrifices in the interest of getting the best Air Force for the money. The current economic environment has made these decisions even tougher. Increased personnel cuts, fewer training opportunities, and decreased flying hours are a few of the

means available to control future costs. These decisions, however, could have grave effects on the retention of the best rated pilots for our CAF.

Rightsizing the force has resulted in fewer available combat-coded aircraft and a fleet in desperate need of modernization. As a service, the Air Force is dedicated to its modernization efforts, but there is a short-term price to be paid. Potentially the Air Force will be non-combat-ready in a short period because of the lost flying hours and training opportunities. Failure to attain this experience could leave the Air Force lacking in short-term tactical competency. Even more disturbing is the insidious slide toward mediocrity that results from a modification of what defines the “best” rated aircrew. This slide could leave the Air Force lacking for future strategic leaders unless historic retention methods receive needed attention.

Retention methods like the ACIP, ACP, and ADSC programs prove to be reactionary when it comes to rightsizing the force. Inconsistent application of bonus monies and temporal commitments force a cyclical routine of wait and see, never allowing the Air Force to manage proactively the “best” end strength possible. As the United States recovers from its economic woes, retention threatens to get worse before it gets better.

Indicators within the private sector, while not individually causal, are still contributory to future Air Force retention rates. Economic resurgence, an expanding commercial aviation sector, and a recovering housing market could result in retention rates similar to those experienced prior to 9/11. Whereas increased investment in pilot training was able to quell the problem then, the expectation of decreased training opportunities and flying hours because of budgetary constraints could make the current problem insurmountable. The next three chapters look at a microcosm of the CAF, with the purpose of providing new ways of analyzing the retention problem.

It is the author’s belief that the USAF can no longer afford to apply retention methods broadly across the rated community. Rather, analysis of individual communities within each major command presents variables distinct to each, allowing a proactively controlled means of applying retention measures. The following chapters focus on the fighter, bomber, and RPA communities from the CAF as an example of individual community focus, as compared to traditional methods of one-size-fits-all retention assessment and programs.

Notes

1. DAF, *World’s Greatest Air Force*, 1.
2. Tollestrup, *Congressional Appropriations Process*, 1.

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3. Ibid., 2.
4. Ibid., 3.
5. Ibid., 5.
6. Ibid., 8–9.
7. Headquarters USAF/A8P, “PPBE Executive Training,” 3–4, 9.
8. Brodie, *Strategy in the Missile Age*, ix, 390.
9. Headquarters USAF/A8P, “PPBE Executive Training,” 14–15.
10. CFMPs refer to plans established to support the USAF’s 12 service core functions. For more information pertaining to this topic, see Donley and Schwartz, statements to the Committee on Armed Services, in Department of the Air Force (DAF), *United States Air Force Posture Statement 2012*.
 11. Kwast, briefing, subject: Core Function Lead Integrator (CFLI) Roles/Responsibilities.
 12. Brodie, *Strategy in the Missile Age*, 390.
 13. DAF, *World’s Greatest Air Force*, 3.
 14. House Armed Services Committee, National Defense Authorization Act for Fiscal Year 2013, H. R. 4310, 145–46.
 15. Ibid., 146.
 16. Ibid.
 17. General Welsh covers this point in his “Vision for the United States Air Force” when he emphasizes readiness to ensure the highest quality force, regardless of size. DAF, *World’s Greatest Air Force*, 2.
 18. Donley and Schwartz, “Air Force Priorities for a New Strategy,” 2–3.
 19. Air Force A8P, “POM Preparation,” 3–4.
 20. Ibid., 38.
 21. The term *combat coded* describes aircraft primarily intended for combat action and maintained at a level of readiness that would support such action. Some fighter, bomber, and RPA vehicles support training functions only and are not coded for combat missions.
 22. DAF, *United States Air Force Posture Statement 2012*, 6, 16.
 23. Ibid., 16.
 24. DOD, “Air Force News Briefing by Secretary Donley and General Welsh.” Donley’s new job is to “help the Defense Department cut its headquarters budget by \$40 billion over the next 10 years and streamline the Pentagon’s organizational structure.” Moore, “Former Air Force Secretary Michael Donley to Lead Pentagon’s Drive for Efficiencies.”
 25. DAF, *World’s Greatest Air Force*, 2.
 26. See “FY 2013 National Defense Authorization Act Summary,” Air Force Association website; and Senate Committee on Appropriations, “Summary: Department of Defense Appropriations Act, 2013.”
 27. DOD, “Air Force News Briefing by Secretary Donley and General Welsh.”
 28. Jim Garamone, American Forces Press Service, “Sequestration Will Hollow Out Force Fast, Dempsey Says,” 17 January 2013.
 29. USAF, “U.S. Air Force Warfare Center,” fact sheet.
 30. See the USAF fact sheet “United States Air Force Weapons School” for more information about the school.
 31. WIC graduates are referred to as “patch wearers” because of the distinctive grey shield worn on their left shoulder that signifies their position as a graduate of the USAFWWS.
 32. Roche, address.

33. Air Combat Command/A3 to USAFWS WIC 2013-B selection board applicants, memorandum.

34. Lt Col J. Kent (commander, 433d Weapons Squadron, Nellis AFB, NV), interview by the author, 25 January 2013.

35. Ibid.

36. Author's personal opinion as a flight commander and assistant director of operations in a fighter squadron based on anecdotal interactions with new lieutenants.

37. Lt Col Pete Fesler (former commander, 27th Fighter Squadron, Langley AFB, VA), interview by the author, 29 January 2013.

38. Pilots refer to ACIP as flight pay and to ACP as the bonus.

39. The DOD defines *basic pay* as "the fundamental component of military pay. All members receive it and typically it is the largest component of a member's pay. A member's grade (usually the same as rank) and years of service determine the amount of basic pay received." Under Secretary of Defense, Personnel, and Readiness, "Military Compensation."

40. US Government Accountability Office (GAO), *Military Cash Incentives*, 10.

41. Ibid.

42. Ibid., 9.

43. Ibid., 5.

44. Ibid., 6.

45. Ibid., 12.

46. 37 USC, sec. 301a, "Incentive pay."

47. For a thorough history of the ACIP program, see Colonel Metrolis's 2003 SAASS thesis, "Divergent Stability: Managing the USAF Pilot Inventory."

48. The aviation community refers to these monthly goals as "gate months." As rated aircrew attain these minimum requirements (i.e., 96 months' flying in the first 144 months of aviation service), they have achieved enough time to "open the gate" for continued receipt of ACIP. During the yearly records review, Flight Records Management personnel will brief rated officers on the number of months they have attained and the number remaining until they have reached their next milestone.

49. Metrolis, "Divergent Stability," 24, 26–27. Colonel Metrolis was a major at SAASS when he wrote his master's thesis.

50. USC, Title 37, sec. 301b, "Special pay."

51. AFI 36-3004, *Aviator Continuation Pay (ACP) Program*, 3.

52. USC, Title 37, sec. 301b, "Special pay."

53. Metrolis, "Divergent Stability," 27.

54. Hock, "Study of the Effectiveness of Aviation Continuation Pay," 12. See also Metrolis, "Divergent Stability," 27.

55. Metrolis, "Divergent Stability," 28.

56. Ibid.

57. Ibid., 29.

58. Ibid.

59. AFI 36-2107, *Active Duty Service Commitments*, 5.

60. Metrolis, "Divergent Stability," 22.

61. Ibid.

62. Ibid., 23.

63. Now a senior policy researcher with RAND, from 2004 to 2011 Robbert was the director of the Manpower, Personnel, and Training Program at RAND Project Air Force. Quoted in

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Jennifer H. Svan, "Air Force Faced with 'New Reality': Fewer Pilots," *Stars and Stripes*, 21 September 2011, <http://www.stripes.com/news/air-force-faced-with-new-reality-fewer-pilots-1.155793>.

64. The reference to "all rated aircrew" includes pilots from the fighter; bomber; mobility; command, control, intelligence, surveillance, and reconnaissance; combat search and rescue; special operations; and unmanned communities, as well as a general community classified as "other."

65. Compiled from a review of the *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012 provided by the Air Force Personnel Center (AFPC/DSYA). Reports are itemized individually in the bibliography.

66. AFPC/DSYA, *Rated Officer Retention Analysis*, FY 10 report.

67. Ibid., FY 01 report.

68. AFPC delineates rated aircrew losses into these four categories. It includes a fifth category, labeled as "other," to encapsulate any losses that do not fit into the original four.

69. AFPC, *Rated Officer Retention Analysis*, FY 00 report.

70. Ibid., FY 10 report.

71. Kafer, "Relationship of Airline Pilot Demand," 48, 52.

72. US GAO, *Homeland Defense*, 2–8.

73. Belasco, *Cost of Iraq*, 1–5.

74. AFPC, *Rated Officer Retention Analysis*, FY 11 report.

75. Freddie Mac, "February 2013 U.S. Economic and Housing Market Outlook."

76. Boeing, *2012 Pilot and Technician Outlook*.

77. Charisse Jones, "Demand for Airline Pilots Set to Soar," *USA Today.com*, 21 June 2011, <http://travel.usatoday.com/flights/story/2011/06/Demand-for-airline-pilots-set-to-soar/48661596/1>.

78. Charisse Jones, "Pilot Shortage Looms for Airlines," *USA Today.com*, 6 January 2013, <http://www.usatoday.com/story/travel/flights/2013/01/06/pilots-shortage-could-start-this-year-analysts-warn/1566088>.

79. Ibid.

Chapter 3

The Fighter Community

With this newly heightened emphasis on realistic training in both the Navy and the Air Force, it was finally recognized by airmen for the first time in years, at least in American practice, that the pilot and his personal attributes and skills, rather than the aircraft or the weapon system, constituted the main ingredient in the formula for success in air combat.

—Benjamin S. Lambeth
The Transformation of American Air Power

Fighter pilots reflect many of the foundational qualities of the United States. Self-confident, aggressive, brash—words often used in the media to describe American political policy apply equally to the modern tactical warriors trained to defend it from the air. However, as Gen Robin Olds points out in his memoirs, being a fighter pilot is more than “just a description, it’s an attitude.”¹ This attitude permeates the very being of the men and women tasked to fly fighters, and it influences almost every aspect of their daily lives. It is something neither easily walked away from nor easily turned off. Viewed from afar, it appears audacious and self-serving. Upon closer inspection, this same attitude becomes determinant in a fighter pilot’s success or failure in aerial combat. As such, the talents that characterize the best aviators in the air are critical for the future of the Air Force in not only the tactical but also the strategic arena.

Talents honed by fighter pilots for aerial combat are invaluable assets to the security of the nation. The responsibility, dedication, and decision making fighter pilots exhibit—whether brand new lieutenants or seasoned lieutenant colonels—extend beyond the cockpit they call an office. Olds further elucidates characteristics of fighter pilots: They have a “streak of rebelliousness and competitiveness. But there [is] something else; there’s a spark. There [is] a desire to be good, to do well in the eyes of your peers and your commander, and in your own mind, to be second to no one.”² This incessant drive makes fighter pilots a prized commodity, and as of late, the population of fighter pilots possessing this commodity has been diminishing.

So that we can understand why the ranks of the fighter community are thinning, this chapter seeks the answer to three specific questions. First, does the fighter community have a retention problem? Second, what are the risks

to the future of the Air Force if a retention problem does exist? Finally, if a problem does present itself, is there anything the Air Force can do to fix it? This chapter discusses the first two questions, while chapter 7 addresses the third. The author sought answers to these questions by means of retention report analysis, historical ACP take-rate analysis, interviews, and an electronically administered survey.

Rated Officer Retention Analysis reports from 2000 through 2012 reveal key insights into USAF requirements during this period. Each report summarizes the previous fiscal year's retention trends for rated aircrew, including pilots, combat systems operators (CSO), and air battle managers.³ For this study, the focus remains with rated pilots. Also included in the reports are the ACP take rates for the previous FY. Graphed over several years, retention and ACP take rates provide useful historical data but do little for predictive planning. Interviews with USAF squadron commanders from the communities of interest, however, help to bridge this gap.

Currently sitting or recently graduated squadron commanders offer valuable insights about those they lead. In each community of interest, the squadron commander is the first officer in a rated pilot's chain of command. Information collected from these interviews is anecdotal and contextually susceptible to unique variables of the community, base, weapons system, and even individual squadron commander. Nevertheless, such visceral responses are not reflected in a historical graph or an analysis of retention rates.

Survey results gathered from students at Air University provide a tertiary means of answering the questions posed above. Students attending PME at AU create an opportune community for survey. A simply titled Pilot Retention Survey, administered online 11–28 February 2013, targeted rated officers in the fighter, bomber, and remotely piloted aircraft communities attending AU courses at Maxwell AFB, Alabama.⁴ Directions for the survey, as well as a guarantee of anonymity, accompanied the invitation for survey completion sent by e-mail to each potential participant.⁵

In total 118 personnel were solicited for the survey and 93 responded, a 79 percent response rate (table 4).⁶ Of 71 fighter pilots, 64 responded to the survey, a 90 percent response rate. The fighter pilot community represents the largest surveyed group at AU, comprising 69 percent (64 of 93) of the total surveyed community.

For the 3,899 fighter pilots serving on AD in FY 2012, the sample size would need to be 350 to reflect the opinion of all Air Force fighter pilots with a 5 percent margin of error. Similarly, of the 71 fighter pilots assigned to AU at the time of survey, 61 responses would allow for their accurate representation. With 64 actual respondents, the margin of error for AU fighter pilots

achieves a 5 percent margin of error. The remainder of this chapter focuses on the fighter community, beginning with the question of retention.

Table 4. Total survey solicitations/responses by MWS and PME school

PME school	Fighter	Bomber	RPA	Total solicited	Number of respondents	Percentage of school responses	Percentage of total respondents
SOS	24	10	19	53	37	70%	40%
ACSC	30	6	2	38	32	84%	35%
SAASS	7	6	1	14	12	86%	13%
AWC	10	2	1	13	11	85%	12%
Total solicited	71	24	23	118			100%
Respondents	64	16	13		92		
Percentage of community responses ^a	90%	67%	57%			<div>Final numbers: 118 solicited 92 respondents 78% response rate</div>	
Percentage of total respondents	69%	17%	14%	100%			

Developed from the results of the Pilot Retention Survey given to SOC, ACSC, SAASS, and AWC students 11–28 February 2013.

^aPercentages for the total community of study come from the number of respondents who completed the survey.

Is There a Retention Problem in the Fighter Community?

A majority of those surveyed from the fighter community believe that the USAF has a retention problem. Specifically, when asked if their “flying community is currently experiencing, or is expected to have a retention problem in the near future,” 96 percent (61 of 64) of respondents agreed or strongly agreed.⁷ Additionally, 73 percent (47 of 64) of those surveyed believe that rated officers leaving before reaching retirement age are among the best officers from their community.⁸ This exodus is occurring on the heels of the “Great Recession,” a period reminiscent of the Great Depression in both depth and breadth of destabilization in the labor and economic markets.⁹ In fact, 81 percent (52 of 64) of respondents believe fighter pilots are leaving active duty despite the poor economic environment.¹⁰ Analysis of fighter pilot losses in the past 12 years shows a period of relative stability punctuated by the beginning of what could equate to greater than normal losses.

From 2000 until 2011, the loss of fighter pilots slowed substantially (fig. 8). Over half of the 903 fighter pilots eligible for loss in FY 2000 left the Air Force,

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with 315 of the 529 pilots separating.¹¹ The loss rate of fighter pilots due to separation subsequently decreased to an annual average of 102 through 2011.¹² Despite an anomalous spike of 149 fighter pilot separations in 2007 because of force shaping measures, losses remained low.¹³ In 2012, however, rated officer losses in the AD Air Force spiked, with 588 more pilots separating or retiring than in the previous year (fig. 8).¹⁴ AFPC acknowledges that the “increase in separations was to be expected as the number of pilots eligible to separate in FY 2012 was much larger than the past two FYs.” The increase is attributed to pilots with “8 year Undergraduate Pilot Training (UPT) Active Duty Service Commitments (ADSC) aging out of the system, resulting in a separation eligible pool nearly 40 percent greater than in FY 2011.”¹⁵ Decreased ACP take rates by fighter pilots in 2012 bolster the concern.

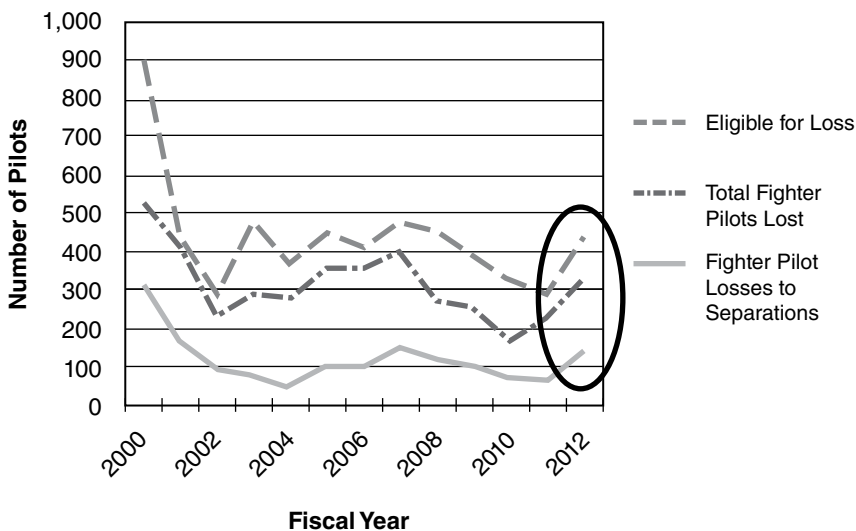


Figure 8. Fighter pilot losses by fiscal year. (Developed from 2000–2012 AFPC Rated Officer Retention Analysis reports, Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.)

Fighter pilots have experienced historically lower ACP take rates as compared to the average ACP take rate of the entire USAF rated community since 2005 (fig. 9).¹⁶ The average ACP take rate for all rated communities in the Air

Force was 68 percent from 2005 until 2012.¹⁷ In that same period, the fighter community averaged an ACP take rate of 62.2 percent.¹⁸

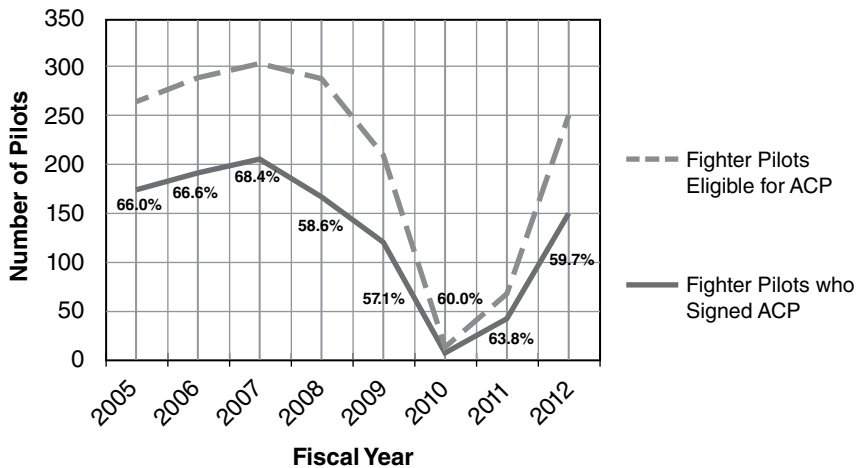


Figure 9. Fighter pilot ACP take rates by fiscal year. (Developed from AFPC/DSYA, *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 12 Report*, Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.)

The fighter ACP take rate for FY 2012 was 59.7 percent, with 151 of 253 eligible fighter pilots taking the bonus, whereas the total average across all rated communities was 66.5 percent (table 5).¹⁹ More interesting is the number of weapons systems experiencing substantially lower ACP take rates when compared to the entire rated community.

Isolating the individual weapons systems from the whole fighter community presents equally interesting and disturbing information. The newest and most advanced weapons systems, which arguably require the most training but retain a high level of prestige, are undergoing fighter pilot losses in excess of those experienced by the fighter and rated communities as a whole. For example, the F-15C community experienced a 52.4 percent ACP take rate compared to the F-22 community's astoundingly low take rate of 46.4 percent.²⁰ Of the seven fighter communities included in this survey, four were substantially below the overall rated pilot ACP take rate (table 6).²¹

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Table 5. ACP take rate comparison between all rated communities and the fighter pilot community

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)		Nontakers	Take rate percentage
Initial	550		277	66.5%
Fighter pilots	Initial 5 year	Initial 5 year 50%	Nontakers	Take rate percentage
Initial	31	120	102	59.7%
Uncommitted	0	0	13	

Developed from "2012 ACP Agreements Finalized by MWS," sorted by all rated communities and the fighter community. In AFPC/DSYDT, *MWS ACP Summary*, 2012, Air Force Personnel Statistics: Static Reports, accessed 18 December 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

Table 6. ACP take rate comparison between all rated communities and fighter MWSS

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)		Nontakers	Take rate percentage
Initial	550		277	66.5%
Fighter pilots by weapons system	Initial 5 year	Initial 5 year 50% percent	Nontakers	Take rate percentage
F-15C	4	18	20	52.4%
Uncommitted	0	0	6	
F-15E	5	14	9	67.9%
Uncommitted	0	0	0	
F-16	9	45	44	55.1%
Uncommitted	0	0	3	
F-22	3	10	15	46.4%
Uncommitted	0	0	0	
F-35	0	1	1	50.0%
Uncommitted	0	0	0	
A/OA-10	9	26	9	79.5%
Uncommitted	0	0	3	
Fighter test pilot initial	1	6	2	77.8%
Uncommitted	0	0	1	

Developed from "2012 ACP Agreements Finalized by MWS," sorted by all rated communities and the fighter community. In AFPC/DSYDT, *MWS ACP Summary*, 2012, Air Force Personnel Statistics: Static Reports, accessed 18 December 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

It is important to note that this examination of 2012 ACP take rates is a single data point, a snapshot in time. Historically speaking, the Air Force experienced drastically lower ACP take rates from FY 1997 to FY 2002, averaging 35.6 percent.²² From FY 2002 through FY 2011, the ACP take rate increased to an average of 68 percent.²³ Comparatively, the 66.5 percent take rate experienced in FY 2012 is not far off from the statistical average over the past nine years.²⁴ The concern is the initial indication of loss, specifically in critical tactical weapons systems. If money is not incentivizing fighter pilots to stay on AD, then what variables are driving them out?

The primary variables affecting the retention of fighter pilots fall into two distinct categories: operations tempo and family stability. Survey respondents rate these two categories as very or quite important at a higher percentage than Air Force identity, promotion and recognition, money, and other life goals (table 7).²⁵ Notably, of the surveyed fighter pilots, 91 percent rate both operations tempo and family stability as either very or quite important to current retention of fighter pilots.²⁶

Interestingly, money and compensation received the least number of very or quite important ratings, at only 45 percent.²⁷ Consequently, current methods the Air Force uses to retain rated aircrew, like ACP and the ACIP, may not have the desired effect of retaining the best personnel within each community. Given that money is the primary means by which the Air Force attempts to retain pilots from each community, it requires its own narrative. First, however, the variables that fighter pilots identify as most influential—operations tempo and family—are discussed.

In a 2012 hearing before the US Senate Subcommittee on Readiness and Management Support, Gen Philip M. Breedlove offered testimony about Air Force readiness. He stated that in 2013 “we will be the smallest we have been since the inception of the U.S. Air Force in 1947. Our aircraft are old, older than they have ever been, with the average age of our fighters at 22 years.” The means to pay for the modernization of the fleet comes from smaller force structure (as discussed in chap. 2). Nonetheless, as General Breedlove describes, the downsizing does nothing to satiate “an increasing demand for air, space, and cyber capabilities, which is evident in our Nation’s new DSG [defense strategic guidance].”²⁸ Rebalancing of the force structure to preserve readiness while not exceeding deployed-to-dwell ratios across the entire force is critical, but current squadron commanders say that it is not working the way it should.²⁹

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Table 7. Fighter pilot retention variables

Variable	Scale					Total responses
	Very important	Quite important	Fairly important	Slightly important	Not important at all	
Air Force identity (AF messaging, mission focus, competency)	14	20	15	12	3	64
	22%	31%	23%	19%	5%	
Money/compensation (base pay, COLA, "bonuses," flight pay, benefits, etc.)	16	13	25	9	1	64
	25%	20%	39%	14%	2%	
Promotion/recognition (master's, PME)	17	15	17	13	2	64
	27%	23%	27%	20%	3%	
Family/stability (base location, quality of life, move timing)	38	20	5	1	0	64
	59%	31%	8%	2%	0%	
Ops tempo (deployments, manning, flying opportunities)	40	18	4	2	0	64
	63%	28%	6%	3%	0%	
Other life goals	13	25	15	6	3	62
	21%	40%	24%	10%	5%	
Summary	138	111	81	43	9	

Squadron commanders across the fighter community are dealing with manning levels and deployment rates eroding the foundation of their squadrons. A recently graduated F-22 squadron commander comments that a normal 18-primary-aircraft-authorized (PAA) squadron is authorized a 1.25:1 crew ratio (CR), or 22.5 assigned pilots.³⁰ As part of the Total Force Integration (TFI) initiative, however, his squadron maintains a CR set at 16 AD pilots, plus the commander and director of operations.³¹ Instead of operating at

this authorized number, both squadrons at his base hover between 12 and 14 assigned AD pilots (75 to 87.5 percent of authorizations), leaving the ANG to fill the remaining positions.³² Compared to a typical fighter squadron manned at 22.5 pilots, he starts the day eight to 10 AD pilots below this number and two to four pilots below his authorization.³³ This environment puts the AD and the ANG pilots in uncomfortable positions.

With fewer pilots to accomplish the same mission, execution of the daily flying schedule occurs on a thin margin. In an 18-PAA fighter squadron, a typical daily flying schedule consists of an “8pit8turn6.”³⁴ This requires a minimum of 14 pilots to fly the aircraft and does not include the four additional personnel required for safe flying operations. These are squadron leader, operations supervisor (Top 3), supervisor of flying, and safety officer. When added to the pilots already required to fly, minimum personnel required increases to 18 for a daily flying schedule—assuming no pilots are sick, on leave, or unavailable.³⁵ With 12 to 16 assigned AD pilots, this means at least two to six ANG pilots must be available to fill the AD shortfalls in the schedule.

A preponderance of ANG pilots do not fly with their units as their primary profession. Most hold other careers in the civilian sector and fly with their units only a few times a month to maintain required currency and qualifications. To account for AD shortfalls as part of the current TFI construct, many part-time guardsmen occupy permanent billets within operational wings in addition to their part-time flying duties.³⁶ With regulated availability, placement of traditional guardsmen in these positions creates an unenviable constraint of full-time job requirements with limited extra hours. As a result, AD pilots pick up these tasks that would otherwise go unaccomplished until the guardsman next reported for duty. Just as reduced manning in the flying squadrons has increased operations tempo, fewer flying squadrons have increased deployment rotations and dwell rates.

Reductions in the total number of fighter squadrons place an extra burden on those remaining to cover the same number of taskings. Reduction from 60 to 54 combat-coded squadrons “took into consideration the Air Force’s surge tempo, the expected future deployment tempo, [and] the need to increase means to accumulate fighter pilot experience.”³⁷ In 2010 the expected deployment time increased from 120 to 179 days for most AD Airmen, as 71 percent were already deploying outside the 120-day baseline.³⁸ According to interviewed squadron commanders, fighter squadrons are experiencing deployed-to-dwell rates as high as 1:2, going against the 1:3 that the USAF desires.³⁹ Just as increased dwell rates for fighter squadrons create frustrations for the commander, individual deployments of highly experienced fighter pilots to non-flying positions exact a similar visceral reaction.

Deployment of experienced fighter pilots to nonflying positions is a growing point of contention throughout the CAF. When the USAFE commander asked for reasons for poor fighter pilot retention, one of the causal factors provided was the increase in 179- and 365-day temporary duty (TDY) deployments.⁴⁰ Anecdotally, squadron commanders have also attributed the short-notice extension of TDYs to the departure of several WIC graduates (see chap. 2).⁴¹

Work ethic and experience make patch wearers ideal for many jobs. However, if these jobs do not explicitly require their unique skill sets, the short-term loss of their expertise while deployed will pale in comparison to the long-term loss of their service. Use of these officers must be the exception, not the rule. Otherwise, the USAF runs the risk of burning them out too soon and losing their skill sets for AD. By one squadron commander's account, if a Weapons School instructor is selected for a one-year deployment at the six-month point of a 32-month assignment (two years, 8 months), the officer has essentially been made ineffective as an instructor for the rest of that assignment.⁴² The USAF can no longer afford to invalidate particular skill sets and the transfer of critical knowledge in the interest of contributing to the joint fight. This type of "all-in" thinking was important for the past decade, but it is time for the Air Force to refocus on its core mission of providing airpower for national security while simultaneously addressing an operations tempo problem.

Symptomatic of an increased operations tempo is decreased stability for families. In response to the USAFE commander's request for information pertaining to poor retention, many fighter pilots stated that "additional duties and non-flying training were crowding out both flying proficiency and family time" and that "difficulties navigating the Air Force bureaucracy to support their families" were increasing.⁴³ Shoring up this account is a graduated F-16 commander who states, "Operational AD fighter squadrons did not hold the appeal for many of the talented pilots because of operations tempo and family stability." As a result, "it always seemed like a greater quantity of the quality leaders left AD."⁴⁴ Comments from surveyed junior officers reflect these squadron commander observations.

Throughout the AU survey, fighter pilots resoundingly agreed that a symptom of increased operations tempo was decreased family stability, which has a direct influence on retention rates. Paraphrasing one fighter pilot, money and operations tempo lead back to family life, and if a "pilot's family is not happy or satisfied, nothing will keep him or her in." Another pilot ties stability to family benefits and the poor economy, stating that if you "mess with benefits, add too much strain to my family, value additional duties over primary

ones and fail to listen to us [then] we are going to bail.” He further claims that the “AF has not realized the full extent of the problem, because our economy has been so bad” and that the “airline hiring boom will cause pilots to flee the service like they did in the 1990s.”⁴⁵ Deductive logic would suggest that failure to take care of families and address operations tempo would continue to drive fighter pilots away from AD. Results from the AU Pilot Retention Survey, the AFPC retention analysis reports, and anecdotal comments from squadron commander and fighter pilots bolster this conclusion. As the economy improves and airline hiring increases, the Air Force will incur severe risk associated with decreasing retention of their best fighter pilots.

What Are the Risks for the Fighter Community?

When asked specifically about the risk associated with a retention problem within the fighter community, the answers were disturbing. Of the surveyed fighter pilots, 61 percent (39 of 64) disagreed or strongly disagreed that their “squadron has been able to maintain a consistent level of manning at the current rate of pilot separation from the AF.”⁴⁶ As discussed, fighter squadrons are struggling to achieve minimum manning for daily operations training, let alone combat mission readiness.

The decline in combat mission readiness is not lost on the surveyed fighter pilots. Sixty-seven percent (43 of 64) disagree or strongly disagree with the statement “combat readiness of my squadron has not been affected by the current rate of pilot separations from the AF.”⁴⁷ The short-term tactical effects of poor fighter pilot retention will manifest again in the future as less experienced personnel fill the resulting void. Many of the best fighter pilots depart for the Guard and Reserve to dampen the operations tempo while providing more stability for their family. Although the TFI construct mitigates the tactical loss of skills and talents, the loss of the best in long-term strategic leadership for AD is worrisome.

Tactical problems resulting from poor retention of the best officers in the fighter community will pale in comparison to the operational and strategic problems posed in the future. Survey results show that 55 percent (35 of 64) of surveyed fighter pilots believe that the best pilots leaving AD are the same officers they expected to see leading the Air Force as commanders at the squadron commander level and higher.⁴⁸ Nearly a third of the respondents (19 of 64) express a neutral opinion to this question, perhaps indicating a tendency to hope for the best while fearing the worst. Regardless, the com-

manders who lead at the squadron commander level and above have a significant impact on the security of the United States.

Leadership at the operational and strategic levels is born out of success and experience at the tactical level. While not every Airman who shows tactical brilliance is destined to find success as a leader at the higher levels of war, success in the tactical arena is generally a requisite for consideration. When asked if the security of the United States would be weaker due to the best officers electing to separate from AD versus staying on past their UPT ADSC, 56 percent (36 of 64) of respondents agreed or strongly agreed.⁴⁹ If departure of the best creates the perception of weaker US security, then current senior leaders need to be aware of this viewpoint.

Fighter pilots are not confident that senior leaders have a good understanding of the quantity and quality of rated officers leaving AD. Nearly two thirds (41 of 64) disagree or strongly disagree that senior leaders possess an accurate picture of the departure of the best fighter pilots.⁵⁰ One respondent observes that while the quantity of pilots leaving is easy for senior leaders to gather, the quality of those officers is lost on them.⁵¹ Without the full picture, any perception of disconnect between senior leaders and the fighter pilots they lead will cleave an equally large divide between those who stay and those who leave. As a starting point to bridge the divide, the following presents Pilot Retention Survey findings for the fighter community.

Findings and Summary for the Fighter Pilot Community

The results of this case study reveal that fighter pilots surveyed at AU believe that the most influential variables on their community for retention are operations tempo and family stability (table 8). Furthermore, 80 percent (51 of 64) agree or strongly agree that the variables influencing their decisions to stay on or leave AD have changed since they initially completed pilot training.⁵² Forty-six percent (29 of 63) disagree or strongly disagree that the ACP did a good job of retaining the best rated officers from the fighter community.⁵³ That said, the opportunity to fly the newest and most advanced weapons systems did not significantly influence retention either, with 55 percent (35 of 64) disagreeing or strongly disagreeing with that statement and another 16 percent (10 of 64) expressing a neutral opinion.⁵⁴ To retain more of the best officers, surveyed fighter pilots identify areas specific to their community that require adjusted focus.

Table 8. Fighter synthesis

	Air Force identity	Money & compensation	Promotion & recognition	Family & stability	Operations tempo	Other life goals
Fighter pilots	53.1%	43.3%	50%	90.6%	90.6%	61%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62

Fighter pilots are clear that more of the best rated officers would remain on AD if key items received extra attention. Specifically, 92 percent (59 of 64) agree or strongly agree that additional focus on the mission vice administrative action would contribute to increased retention.⁵⁵ Additionally, 88 percent (56 of 64) believe an increased focus on tactical competency as opposed to career progression would boost retention of the best.⁵⁶ While apparent that fighter pilots would like to spend more time training for their primary role in the Air Force, addressing tactical issues is only part of the solution.

Contributing to fighter pilot malcontent is the perceived dichotomy between Air Force messaging about the mission versus its spending. While only 53.1 percent identify Air Force identity as an influential retention variable, 63 percent (40 of 64) agree or strongly agree that closer alignment of Air Force messaging and spending would positively affect retention.⁵⁷ However, the moderate response rate concerning messaging pales in comparison to the importance of stability.

Highlighted previously, family stability tied for the highest ranking of retention influences for this group. If family stability and welfare were better than they are currently, 86 percent (55 of 64) of those surveyed agree or strongly agree that retention of the best would improve.⁵⁸ Only 28 percent (18 of 64) think that the best are leaving for better opportunities in the Guard or Reserve, and fewer still, 21 percent (13 of 64), think that the best are leaving for better opportunities in the civilian sector.⁵⁹ These indicators along with the others mentioned provide insight as to where the Air Force can begin to solve the problem of fighter pilot retention.

Despite the poor economic environment, fighter pilots are leaving AD as indicated by lower than average historical ACP take rates since 2005 and decreased retention rates in FY 2012. Anecdotal comments, survey results, and ACP take rates indicate that money is not the issue. Further, the fact that the newest and most advanced systems are experiencing the lowest retention rates perhaps indicates a greater problem among those hand selected to incorporate new technologies into the Air Force.

Retention methods like ACP and ACIP are doing little in their current constructs to slow the exodus of fighter pilots. However, little attention has been given to the *specific variables* influencing retention. Lack of consistency in administering exit surveys to separating pilots is one problem. Another is insufficient methods for tracking pilots by community and weapons system through the first six to 12 years of their careers. Consequently, Air Force leaders are left to rely on historical trends like ACP take rates and retention matrices to speculate about future models.

Contributing to current levels of poor retention is the ease of transition between AD and the Guard or Reserve. The increasing trend of collocated AD, Guard, and Reserve units puts all three components in an uncomfortable position. While each serves to accomplish a mission for the United States, they do so in very different ways. Thus, their close proximity and sharing of assets create a difficult position for each to navigate. Personnel losses in the tactical regime are essentially a zero-sum game, but the long-term leadership lost in the strategic regime is very much a negative sum game for the Air Force.

Decreased manning in fighter squadrons, increased theater security package deployments, and higher deployed-to-dwell rates increase the rate at which fighter pilots reach burnout. Recapitalization of human assets must occur at a rate coincident with our material assets, as exemplified by the use of WIC graduates.⁶⁰ The future of the Air Force relies on these low-density, high-demand officers. Retention of their skill sets is existential to its tactical and strategic capability.

Continued loss of flying hours, reduction in training opportunities, increased airline hiring, and frustrations with careerism leave many fighter pilots feeling cornered by a situation that shows no indication of improving. The retention of these officers will get worse before it gets better unless underlying reasons for pilot dissatisfaction are addressed by something other than a blanket solution such as the ACP/ACIP programs. As the findings in the next chapter illustrate, this is a sentiment that bomber pilots share, albeit for contextually different reasons.⁶¹

Notes

1. Olds, Olds, and Rasimus, *Fighter Pilot*, 291.
2. Ibid.
3. AFPC/DSYA, *Rated Officer Retention Analysis*, FY 11 report.
4. See app. D for the survey administered to AU students at Maxwell AFB.
5. See app. E for an example of the e-mail sent to each prospective survey respondent.
6. While highlighting survey responses for the entire community of study was necessary, the remainder of this chapter and future chapters focus on results from individual communi-

ties unless specific reference to the larger group is informative. Note that in most cases, percentages reported are whole numbers, which may not sum to 100 percent due to rounding. Percentages for the total community of study come from the number of respondents who completed the survey.

7. Results tabulated from AU Pilot Retention Survey, sec. 2, question 15, sorted for fighter pilot answers.

8. Ibid., question 16.

9. Eichengreen and O'Rourke, "Tale of Two Depressions."

10. Results tabulated from AU Pilot Retention Survey, sec. 2, question 18, sorted for fighter pilot answers.

11. Pilots eligible for loss from the operational flying community include those who qualify for separation or retirement from AD, advance to colonel (O-6), are grounded, or are subsequently removed from active flying status for other reasons.

12. Compiled from a review of the AFPC *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012. See bibliography for the itemization of each report.

13. The force shaping program is a series of voluntary and involuntary separation initiatives implemented to reduce overall end strength and rightsize overmanned career fields. See Elkins, "Force Shaping Board Details Announced."

14. AFPC/DSYA, *Rated Officer Retention Analysis*, FY 12 report, 2.

15. Ibid.

16. AFPC began tracking ACP take rates by individual weapons systems beginning in 2005. Prior data highlights only the total ACP take rate for all rated communities combined.

17. AFPC/DSYDT, *MWS ACP Summary*, 2012.

18. Compiled from a review of the AFPC *Rated Officer Retention Analysis* reports from FY 2000 through FY 2012. See bibliography for itemization of reports.

19. AFPC/DSYA, *Rated Officer Retention Analysis*, FY 12 report, 4.

20. AFPC/DSYDT, *MWS ACP Summary*, 2012.

21. Ibid.

22. AFPC/DSYA, *Rated Officer Retention Analysis*, FY 12 report, 3.

23. Ibid.

24. Ibid., 4.

25. The following descriptors included with the influential variables helped clarify the categories for survey respondents: Air Force identity (Air Force messaging, mission focus, competency), money/compensation (base pay, cost of living, bonuses, flight pay, benefits), promotion/recognition (master's, PME), family/stability (base location, quality of life, move timing), and operations tempo (deployments, manning, flying opportunities).

26. Results tabulated from AU Pilot Retention Survey, sec. 2, questions 7–12, sorted for fighter pilot answers.

27. Ibid., question 8.

28. Breedlove, statement, in Senate, *Department of Defense Authorization for Appropriations for Fiscal Year 2013*, 128.

29. Ibid.

30. PAA is the total number of aircraft assigned to support the unit's primary mission. CR defines the number of pilots required to fulfill operational requirements based on the PAA and is established by AFI 38-201, *Manpower and Organization*, and the unit manning document. Multiplying the PAA by the CR gives the number of pilots required for a squadron to maintain combat mission readiness.

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31. The commander (first in command) and the director of operations (second in command) do not count against CR, which explains their delineation from other pilots.

32. Fesler, interview.

33. The math for tracking AD and ANG manning under the TFI construct is complex and requires further clarification. For an 18-PAA squadron manned at a 1.25 CR, $18 \times 1.25 = 22.5$. Round up to 23 + CC and DO = 25. In a 21-PAA squadron (both the 27th and 94th Fighter Squadrons are now 21 PAA), $21 \times 1.25 = 26.25$. Round down to 26 + CC and DO = 28. TFI reduced manning to 16 + CC and DO. This occurred prior to the change to 21 PAA and did not adjust. The numbers were based on a model that fills out three 6-ship unit type codes (UTC) and one 3-ship UTC to a 1.5 manning ratio using an alternating AD-Air Reserve Component (ARC)-AD-ARC scheme. By this logic, each 6-ship UTC requires nine pilots. UTCs 1 and 3 require 18 pilots. Hence, the current TFI round table mandated AD authorizations of 16 + CC and DO = 18 pilots. Currently, manning in the Langley squadrons hangs in the 12–14 range, which equals between 75 and 87.5 percent of authorized.

34. An “8pit8turn6” refers to eight pilots flying the first eight missions in the morning. After landing, those aircraft will take on gas in the “hot pit” while still running and then fly a second mission midafternoon. Once they land, six of those “turn” to the afternoon missions, flown by six different pilots.

35. Air Force instruction mandates these four additional positions for local flying operations. Leadership refers to the squadron commander or designated representative; Top 3 is in charge of executing the flight schedule; the supervisor of flying maintains oversight of airborne and airfield operations; and the safety officer is available for emergencies. These programs are controlled by Air Force Policy Directive (AFPD) 11-4, *Aviation Service*; AFI 11-418, *Operations Supervision*; AFPD 91-2, *Safety Programs*; and AFI 91-202, *US Air Force Mishap Prevention Program*.

36. Introduced in 2004, the TFI initiative utilizes all three components of the Air Force, specifically the Regular Air Force or active duty, the ANG, and the Air Force Reserve (AFR) to tap into the inherent strength and experience of all three Air Force components to increase overall combat capability.

37. Department of the Air Force, *United States Air Force Posture Statement 2012*, 6.

38. Hanson, “Air Force Officials Increase Deployment Times.”

39. Deployed-to-dwell rates refer to the amount of time an Airman will spend deployed versus at home. A 1:2 dwell rate means that for every one month a soldier is deployed, he or she can expect to spend two at home. Currently, the Air Force controls the dwell rates through the Air Expeditionary Force system (see chap. 5). This information comes from Lt Col C. Craddock (commander, 27th Fighter Squadron, Langley AFB, VA), interview by the author, 21 February 2013.

40. Pettus to Welsh, bullet background paper.

41. Craddock, interview.

42. Six months of spin-up training to be proficient as a Weapons School instructor, plus three months of deployment preparation, plus 12 months of deployed operations, plus one month of reconstitution, plus six months of spin-up training to become proficient as a Weapons School instructor, plus two months of PCS preparation equals 30 months. *This leaves two months for solid instruction.*

43. Pettus to Welsh, bullet background paper.

44. Lt Col C. Steffens (former commander, 14th Fighter Squadron, Misawa AB, Japan), interview by the author, 7 February 2013.

45. Anonymous responses, Pilot Retention Survey.
46. Results tabulated from Pilot Retention Survey, sec. 3, question 22, sorted for fighter pilot answers.
47. Ibid., question 23.
48. Ibid., question 24.
49. Ibid., question 25.
50. Ibid., question 26.
51. Anonymous response, AU Pilot Retention Survey.
52. Results tabulated from AU Pilot Retention Survey, sec. 4, question 32, sorted for fighter pilot answers.
53. Ibid., question 30.
54. Ibid., question 31.
55. Ibid., question 34.
56. Ibid., question 35.
57. Ibid., question 36.
58. Ibid., question 37.
59. Ibid., questions 38–39.
60. Use of WIC graduates as the example in this paper is not meant to infer they are the only officers necessitating recapitalization. Because of the scope of this paper and the level of expertise attained by WIC graduates, they constitute a convenient archetype from which further debate about retention can develop.
61. For more information about the fighter community survey, please contact Lt Col Brian Stahl at brian.t.stahl.mil@mail.mil.

Chapter 4

The Bomber Community

The greatest of all our assets, however, were the wonderful pilots and air officers which this country had created. They were filled with enthusiasm, with the full knowledge that air power was the dominating factor in the world's development, and with a perfect willingness on their part to give up their lives to demonstrating its usefulness and to bringing this great, new development to the point that would make America the world's leader in aviation.

—Gen William “Billy” Mitchell
Winged Defense

“Physical strength, judgment, emotional stamina, dependability, team play, discipline, and leadership”: these were the sought-after qualities for a bomber pilot during the Air Force’s testing and training programs in World War II.¹ They reflect the sustaining attributes that have enabled the United States to maintain its preeminent place in the international community. Noteworthy is the inference that the Air Force recognized a fundamental difference in the traits of a pilot ideally suited for different communities. Whereas fighter pilots required rapid eye-hand coordination, aggressiveness, boldness, individuality, and a zest for battle, the bomber pilot required something different, something beyond the individual talents.

Bomber and fighter pilots display different characteristic traits, which means they see things from contextually different viewpoints. Col John C. Flanagan remarked in 1944 that bomber crews would gladly forego the hot-shot pilot for one who could quickly assess a problem, recognize the life-or-death implications for himself and his crew, and come to the best possible decision for all.² The perceived dissimilarities between the pilot communities of that era persist. Thus, variables that influence bomber versus fighter pilots should be contextually different even though they share the same semantic category.

This chapter examines the same influential variables discussed in the previous chapter but points out where the two communities differ contextually. Analysis of retention survey data, historical ACP take rates, AFPC retention statistics, and anecdotal interviews and comments builds a specific picture for the bomber community. It serves as the basis for answering the three main questions. First, does the bomber community have a retention / potential re-

tention problem? Second, what are the risks to the future of the Air Force if a retention problem does exist? Finally, if a problem does present itself, can the Air Force do anything to fix it? The following discussion addresses the first two questions, while chapter 7 addresses the third.

Bomber pilots comprise 20 percent (24 of 118) of the rated community solicited for the Pilot Retention Survey given to AU students. Of 24 bomber pilots surveyed, 16 responded, for a 67 percent response rate. This community represents the second largest surveyed group at AU, with 17 percent of total respondents (16 of 93).³ As a known limitation, the small size of the available bomber population at AU will affect data validity.

Because of the small sample size, the margin of error associated with the bomber responses is higher than desired. Using the number of bomber pilots serving on AD in FY 2012, which stood at 1,779, this data pool would require a sample size of 317 bomber pilots to reflect the opinion of all Air Force bomber pilots with a 5 percent margin of error. Similarly, of the 24 bomber pilots assigned to AU at the time of survey, 23 total responses would allow for accurate representation of bomber pilots assigned to AU with a 5 percent margin of error. With 16 actual respondents, the margin of error for AU bomber pilots is 20 percent.

Is There a Retention Problem in the Bomber Community?

Bomber pilots, much like fighter pilots, believe that the Air Force has a retention problem within their community. Of 16 respondents, 82 percent (13 of 16) agree or strongly agree with the statement, the bomber flying community “is currently experiencing, or is expected to have, a retention problem in the near future.”⁴ Of those surveyed, 50 percent (8 of 16) agree or strongly agree that rated officers electing to leave the Air Force before retirement age are among the best from the bomber community.⁵ Further, 74 percent (11 of 16) feel that bomber pilots were electing to leave AD in the midst of the recent economic downturn.⁶ When combined with the loss of bomber pilots since FY 2000, the anecdotal opinions offered by bomber pilots may collectively indicate an increasing problem for their retention.

Analysis of bomber pilot losses from FY 2000 through 2011 shows a less stable retention environment than that experienced in the fighter community (fig. 10). From FY 2000 through FY 2012, the average number of bomber pilots eligible for loss was 115; 76 were actually lost, 20 of which were due to separation.⁷ In FY 2000 the most bomber pilots were eligible for loss from the operational flying community. Of the 255 eligible, 117 were actually lost, with

58 attributed to separation.⁸ The number of bomber pilots eligible for loss dropped significantly from FY 2000 to 2002, reaching the lowest number in the past 12 years. In 2002, 55 bomber pilots were eligible for loss; 39 were actually lost, with only seven attributed to separations.⁹ This number would jump considerably from 2005 through 2007, attributed to Palace Chase and other force-shaping initiatives.¹⁰

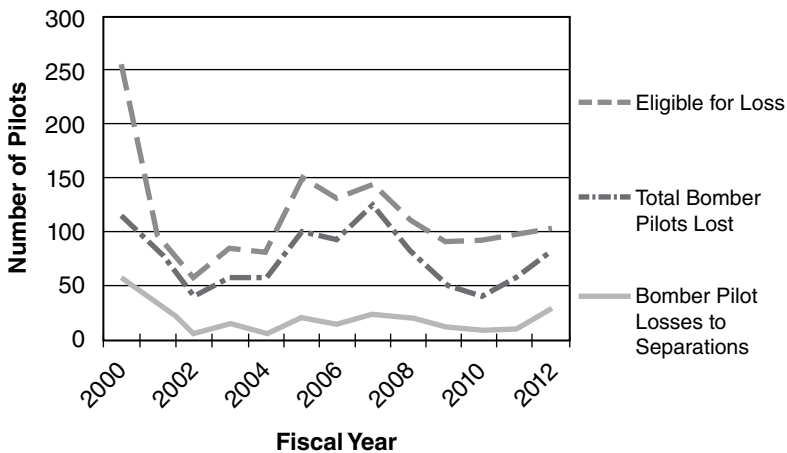


Figure 10. Bomber pilot losses by fiscal year. (Developed from AFPC/DSYA, *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 12 Report*, Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.)

Through such efforts Air Force senior leaders and personnel management control the size and shape of the force.¹¹ In 2006 Lt Gen Roger Brady, Air Force deputy chief of staff for manpower and personnel, described these measures as necessary to enable recapitalization of the force while controlling the increased operations and investment costs resulting from high operations tempo and the war on terror.¹² General Brady added, “People are the most important thing we have. They are also the most expensive thing we have,” which requires continued balance with all other Air Force assets for an effective force.¹³ After the three-year period of rebalancing, losses of bomber pilots fell closer to the 12-year historical average. If recent trends continue, however,

THE BOMBER COMMUNITY

higher losses attributed to separations could be in the near future, as indicated by decreased bomber pilot ACP take rates.¹⁴

Since 2005 the bomber community has seen its pilots accept ACP at higher take rates as compared to the rest of the rated community (fig. 11).¹⁵ The average ACP take rate for all rated communities in the Air Force was 68 percent from 2005 until 2011.¹⁶ In that same period, the bomber community averaged an ACP take rate of 74.3 percent.¹⁷ In 2012 this turned around, with a 62.3 percent take rate—the lowest in eight years.¹⁸ Further exacerbating the concern is the dichotomy between this take rate and that of the rest of the rated Air Force.

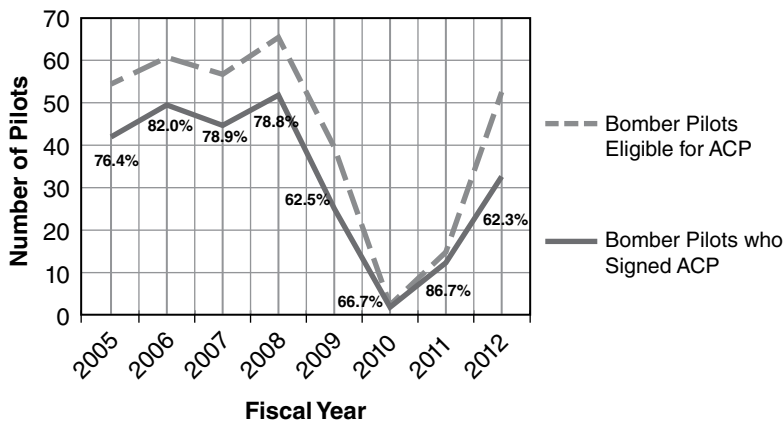


Figure 11. Bomber pilot ACP take rates by fiscal year. (Developed from AFPC/DSYA, *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 12 Report*, Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.)

Bomber pilots had a lower than average ACP take rate compared to the entire rated Air Force community in FY 2012. While the overall number is not as severe as what the fighter community experienced for the same year (see chap. 3), the low bomber-pilot take rate continues to indicate a retention problem within the CAF writ large. The ACP take rate for bomber pilots was 62.3 percent in FY 2012—with 33 of 53 eligible bomber pilots signing the bonus—compared to a 66.5 percent average take rate across all rated communities (table 9).¹⁹ Broad analysis of the bomber community does not tell

the complete story, however. Further research reveals a wide variation in ACP take rates across B-1, B-2, and B-52 pilots.

Table 9. ACP take rate comparison between all rated communities and the bomber pilot community

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)	Nontakers	Take rate percentage
Initial	550	277	66.5%
Bomber pilots	Initial 5 year	Nontakers	Take rate percentage
Initial	33	20	62.3%
Uncommitted	0	1	

Developed from 2012 ACP agreements finalized, sorted by all rated communities and the bomber community. See AFPC/DSYDT, MWS ACP [Aircrew Continuation Pay] Summary, 2012, Air Force Personnel Statistics: Static Reports, accessed January 2013, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

Division of the bomber community into its three platforms reveals disunion of ACP take rates between the pilots tasked to operate them. Unequivocally, the bomber community has the oldest aircraft in the CAF, with the average age of the bombers hovering around 35 years.²⁰ With over 60 years of continued flying service, the patriarch of the bomber community is the B-52, with operations projected to continue well into 2040.²¹ One would think that the B-52's relative age would make it less appealing for pilots than the newer B-1 and B-2 and therefore it would have the lowest ACP take rates.²² Counter-intuitively, the B-52 community enjoyed the highest pilot ACP take rate of all bomber platforms in FY 2012, with 71.4 percent (10 of 14) of eligible pilots signing the bonus.²³ Comparatively, B-1 pilots had a 57.1 percent take rate (12 of 21) and the B-2 community a 64.7 percent take rate (11 of 17) during the same year (table 10).²⁴ If bonus availability and age of bomber platform are not significant variables for bomber pilot retention, what variables are?

Influential variables bear some resemblance to the fighter community, notwithstanding a few nuances (table 11). According to surveyed bomber pilots, operations tempo and family stability are the most important retention factors—similar to the fighter community responses. Eighty-eight percent of respondents (14 of 16) rate these two categories as very or quite important to retention in their community.²⁵ While responses between fighter and bomber communities are similar, the contextual background behind the collective answers varies.

Table 10. ACP take rate comparison between all rated communities and bomber MWSs

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)	Nontakers	Take rate percentage
Initial	550	277	66.5%
Bomber pilots by weapons system	Initial 5 year	Nontakers	Take rate percentage
B-1	12	9	57.1%
Uncommitted	0	0	
B-2	11	6	64.7%
Uncommitted	0	0	
B-52	10	4	71.4%
Uncommitted	0	1	
Bomber test pilot	0	1	0%
Uncommitted	0	0	

*Developed from 2012 ACP agreements finalized, sorted by all rated communities and the specific bomber MWS. See AFPC/DSYDT, *MWS ACP Summary*, 2012, Air Force Personnel Statistics: Static Reports, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.*

Interviews with bomber squadron commanders provide anecdotal insight into the “apple and orange” differences between the fighter and bomber communities.²⁶ Whereas the fighter community generally plans on a permanent change of station (PCS) every two years and eight months, bomber pilots tend to stay at their bases for longer periods—in some cases five to six years.²⁷ The reasons for this are twofold. First, the bomber community’s fewer operational bases limit possible PCS locations. It has only five operational wings—two B-1, two B-52, and one B-2—all in the continental United States (CONUS).²⁸ Second, the limited PCS locations decrease the frequency needed to move aircrew and their families between bases, thereby providing a higher level of relative stability.²⁹ Desirability of base location is a retention factor, but given the investment in wing infrastructure paired with the likelihood of changing locale, this variable is unexpanded. Contextually speaking, the difference in mission between fighter and bomber pilots paints a dissimilar picture with respect to the influence of operations tempo on retention.

Table 11. Bomber pilot retention variables

Variable	Scale					Total responses
	Very important	Quite important	Fairly important	Slightly important	Not important at all	
Air Force identity (AF messaging, mission focus, competency)	3	2	7	4	0	16
	19%	13%	44%	25%	0%	
Money/compensation (base pay, COLA, "bonuses," flight pay, benefits, etc.)	9	3	3	1	0	16
	56%	19%	19%	6%	0%	
Promotion/recognition (master's, PME)	6	6	3	0	1	16
	38%	38%	19%	0%	6%	
Family/stability (base location, quality of life, move timing)	10	4	2	0	0	16
	63%	25%	13%	0%	0%	
Ops tempo (deployments, manning, flying opportunities)	9	7	0	0	0	16
	56%	44%	0%	0%	0%	
Other life goals	4	5	7	0	0	16
	25%	31%	44%	0%	0%	
Summary	41	27	22	5	1	

The competing nature of the nuclear and conventional desired operational capability (DOC) statements places added strain on bomber aircrew tasked to execute them.³⁰ The importance of the nuclear mission puts a different contextual spin on operations tempo for the bomber community as compared to the fighter community.³¹ Even though bomber squadrons have a clear manning advantage, the nuclear mission responsibility drives operations tempo differently than in a tactical fighter squadron.³²

Inevitably, the nuclear mission—which requires aircrew entry into the personnel reliability program (PRP), as controlled by DOD 5210.42-R, *Nuclear Weapons Personnel Reliability Program (PRP) Regulation*—elevates operations tempo for all involved, regardless of manning.³³ Given the unique “policy implications and military importance” of nuclear weapons, selection of personnel is limited to “only the most reliable people” to accomplish associated duties. Because of the inherent need for the “safety, security, control, and effectiveness of nuclear weapons,” the additional operational requirements levied on nuclear-capable aircrew are substantial.³⁴

Besides the normal requirements imposed on tactical aircrew, the strategic mission and PRP program mandate additional medical, mental, physical, personnel, personal, security, and proficiency inspections above and beyond the normal inspections for military members seeking a preliminary or continued security clearance.³⁵ Further, when negligent or willful action in any of these categories threatens the security of nuclear weapons, the entire community—not just the violating member—suffers increased operational scrutiny.³⁶ One example of this collective responsibility, and the ramifications contained within, comes from the events following a violation of regulation in 2007.

In 2007 an “Air Force B-52 flew across the central United States with six cruise missiles armed with nuclear warheads,” creating a maelstrom of repercussive events through the USAF.³⁷ Shortly thereafter, nuclear weapon parts were inadvertently shipped to Taiwan in March 2008. The composite result of these two events resulted in the firing of the top two senior leaders from the Air Force, highlighting the gravity of the collective incidents.³⁸ A resultant increase in inspections paired with the standup of Global Strike Command (GSC) and the economic downturn equated to a watershed moment where many of the best bomber pilots departed AD for the Guard or Reserve.³⁹ While a selective incident, it highlights the intensity of operations tempo associated with the strategic bomber community and its inherent difference compared to the tactical fighter community.

Despite the identification of similar influential variables between communities, the contextual differences driving those rankings are striking and require further study to ensure that accurate application of retention methods

occurs not only by aeronautical rating but also by community (i.e., bomber, fighter, RPA) and weapons systems (B-2, F-16, MQ-1, etc.) as well. In addition to stability and operations tempo, the bomber community identifies monetary compensation and promotion as influential retention factors.

Bomber pilots place more emphasis on promotion and recognition than fighter pilots do, according to survey results. Specifically, 75 percent (12 of 16) of bomber pilots rate these factors as very or quite important for retention.⁴⁰ Currently, AFPC promotion statistics present a broad overview of promotion results, focusing on aeronautical ratings (e.g., pilot, navigator, air battle manager) as opposed to higher fidelity statistics sorted by MWS. Undoubtedly, AFPC could run statistical analysis of promotion results by individual MWS if required. While statistical promotion results by community are beyond the scope of this research, it is noteworthy that the rate of promotion for individual career fields has come under increased scrutiny in recent months (see chap. 5's RPA community discussion).⁴¹ If retention rates continue to wane, this variable warrants increased granularity in the retention calculus for future studies. Equally interesting are the survey results regarding monetary compensation.

Bomber pilots also rate money and compensation higher than seen in the fighter survey. Seventy-five percent of bomber pilots (12 of 16) find monetary compensation to be very or quite important for retention.⁴² When contextually combined with the ACP take rate for FY 2012, the implication is that current retention methods like ACP and ACIP—while not adequately retaining personnel in their current construct—could be more incentivizing for bomber pilots if the payout rates increased.⁴³

Studies show that adjusting the monetary amount affects retention rates. For example, citing a 2013 Headquarters Air Force Rated Force Policy (HQ USAF/A1PPR) report, Maj Eric Weber highlights the significance of an incremental change of five thousand dollars per year in ACP payout. The difference between a \$10,000 and \$40,000 ACP payout per year is a 40 percent increase in projected retention through 20 years of service (fig. 12).

This is not to say that increased money is the retention solution in lieu of addressing other influential variables. Realistically speaking, it is probably not feasible given the current economic environment. These statistics highlight, however, that a dollar amount exists that would retain a higher percentage of the best pilots from all communities, not just the bomber community. It is up to the Air Force to define the correct amount by community or suffer through continued conjecture, as highlighted in the GAO report from chapter 2.⁴⁴ Guesswork in the midst of increased airline hiring will have a negative effect for the USAF.

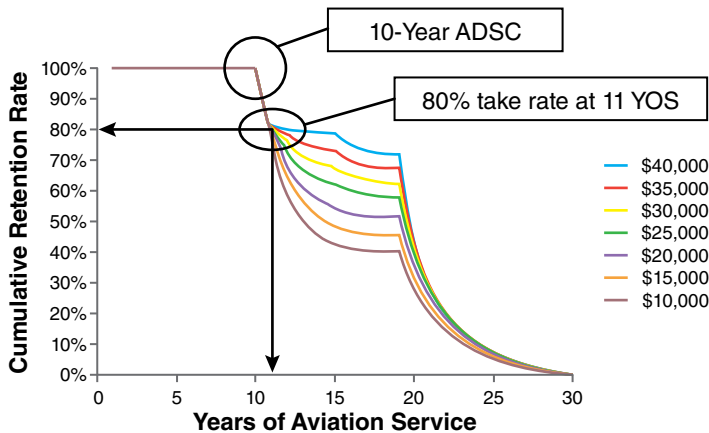


Figure 12. Increased ACP payout effect on retention. (Reprinted from Maj Eric Weber, HQ USAF/A1PPR, briefing, subject: ASAM [Advanced Study of Air Mobility] '13 Orientation: Air Staff and '10 Grads' Perspective, January 2013.)

Increased airline hiring in the near future necessitates that the Air Force gain an accurate sight picture with respect to *all potential retention methods* available for use. Otherwise, the service could suffer from inappropriate selection of retention methods or ineffective application of selected techniques in a disjointed response to increased pilot departures.⁴⁵ With airline hiring expected to peak between 30,000 and 50,000 total hires in the next 10 years, ACP take rates and pilot retention could descend to levels not seen since the early 1990s (fig. 13).⁴⁶ External influences, such as airline hiring rates, combine with factors inside the USAF to create a precarious position for rated pilot management.

Fighter pilot shortfalls caused by low projected capacity for fighter pilot production exact further stresses on the bomber community.⁴⁷ To maintain USAF mission readiness, bomber pilots may fill fighter pilot shortfall taskings such as the MC-12 or air liaison officer (ALO). The requirement to serve as gap fillers creates subtle undertones of inequality as bomber pilots feel unfairly overtasked.

The perception of inequality among pilots of different communities manifests within the bomber community as well but for different reasons. Disparate retention methods between pilots and combat systems operators, tasked to perform duties on the same aircraft, create a perceptible retention difference within communities. As of the writing of this paper, CSOs from the B-1, B-52, and F-15E communities were not offered ACP while pilots from these

same communities did receive an ACP offer (see chap. 2).⁴⁸ While not considered as a factor in the surveyed pool of rated officers, the interaction between pilots and CSOs both during the execution of their flying missions and in a normal work environment may have driven the monetary response rate higher than that seen in the fighter community, which has CSOs only in the F-15E.⁴⁹ One pilot anecdotally comments that “the B-1 community lost half a squadron’s worth of weapon systems officers due to separation from the AF in 2010,” which another survey respondent also notes.⁵⁰ Additionally, several CSOs from SAASS Class XXII comment on the lack of an ACP offering and its dichotomous effect within their community.

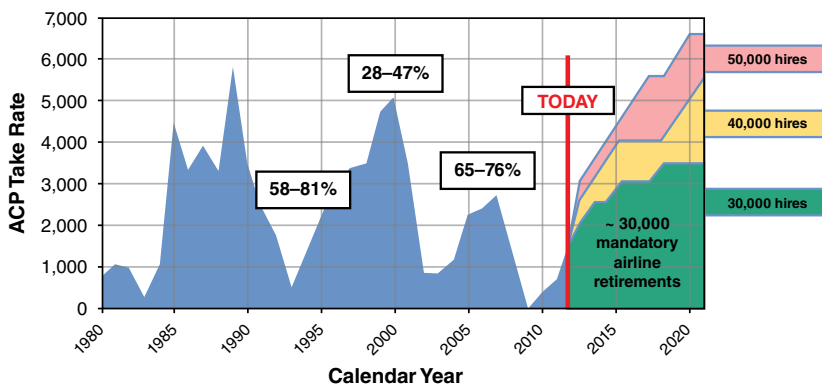


Figure 13. Effect of global/major airline hiring on ACP take rates. (Reprinted from Maj Eric Weber, HQ USAF/A1PPR, briefing, subject: ASAM '13 Orientation: Air Staff and '10 Grads' Perspective, January 2013.)

Just as Colonel Flanagan highlights different physical and personality traits for fighter and bomber pilots, this discussion has described the contextual differences between fighter and bomber communities with respect to how they define influential variables. These variances reveal the need to treat individual communities and weapons systems within those communities differently to effect better retention. We turn next to the risks associated with poor retention for the bomber community, as reflected by survey results.

What Are the Risks for the Bomber Community?

Bomber pilots are less polarized in their responses to the Pilot Retention Survey’s question concerning the future risk of poor retention in their community. They seem less concerned with the future combat capability of the

bomber community or the security of the United States as a function of bomber pilot retention. This is not to say that bomber pilots discount the importance of capability or security. Rather, it suggests that they perceive a lower risk associated with retention of the best pilots. As previously indicated, data validity would increase with a larger survey. The following raw survey data and notable comments allow further insights into this community.

Bomber pilots are not concerned with manning levels within their squadrons. When specifically asked if their “squadron has been able to maintain a consistent level of manning with the current rate of pilot separation from the AF,” 38 percent agreed (six of 16), while 25 percent disagreed (four of 16).⁵¹ Another 25 percent of respondents (four of 16) were neutral. Minimal concern for consistent squadron manning translates to bomber pilot opinions about combat readiness.

Regarding the statement “the combat readiness of my squadron has not been affected by the current rate of pilot separation from the AF,” bomber pilots do not have strong opinions. Only 25 percent (four of 16) agreed, 13 percent (two of 16) were neutral, and 44 percent (seven of 16) disagreed.⁵² Overall, more bomber pilots disagree with the statement but not overwhelmingly. As such, the data does not provide prodigious proof that combat readiness is of concern for bomber pilots because of retention. Bomber pilots follow the same middle-of-the-road rejoinder to queries about the best pilots separating from the bomber community.

Compared to fighter pilots, bomber pilots seem less concerned about either the best pilots from their community leaving before becoming a commander at the squadron level or the security of the United States suffering because of it. Survey results show that 38 percent (six of 16) agree, 31 percent (five of 16) are neutral, and 19 percent (three of 16) disagree with the statement “the best rated officers I expected to see leading the Air Force as commanders at the squadron commander level and above are leaving AD well before they reach that milestone.”⁵³ Following the same bell curve trend, 31 percent (five of 15) agree, 25 percent (four of 16) are neutral, and 31 percent (five of 15) disagree that the departure of the best pilots from the bomber community after their initial ADSC will weaken the security of the United States.⁵⁴

Remarks from bomber pilots surveyed reinforce this statistical data. One pilot observes that while many of the best get out, others clearly do not—but those who do elect to separate generally make the decision early, with the ACP playing little to no role in the decision.⁵⁵ Another suggests that many bomber pilots are “staying in until the airline hiring bubble begins so they can stay current and competitive for those jobs.”⁵⁶ “There is a 50/50 split of guys who are leaving” that would “amount to something later on,” states a third

respondent. He adds that limited leadership opportunities create fierce competition for those positions, with many choosing to leave when they feel “they were [not] given a fair shake.”⁵⁷ Clearly, limited opportunities external to the Air Force currently are keeping bomber pilots in, but if increased external opportunities present themselves or prove to be more lucrative, they may be inclined to depart at significantly higher rates. In either case, bomber pilots share the opinion that Air Force senior leadership is unaware of the quantity and quality of rated officers leaving AD.

With respect to risk, the only question that garners polarizing answers from bomber pilots pertains to senior leadership awareness. When asked if “current Air Force leadership has a good understanding of the quantity and quality of rated officers leaving after their initial ADSC, 63 percent (10 of 16) of respondents disagreed or strongly disagreed with the premise.⁵⁸ Interestingly, when asked if future general officers will be less capable because the best elected to leave AD early in their careers, bomber pilots return to their typical bell curve, with 38 percent (6 of 16) agreeing or strongly agreeing while 56 percent (nine of 16) were neutral.⁵⁹ This limited survey population presents relatively mild results, with only sporadic perturbations from the mean answer. Findings for the bomber community provide a good starting point for further study while simultaneously emphasizing the need for an increased sample size to strengthen statistical validity.

Findings and Summary for the Bomber Pilot Community

According to the Pilot Retention Survey, bomber pilots view operations tempo and family stability as the most influential retention variables. This community also perceives two other variables pertaining to money/compensation and promotion/recognition as notable factors (table 12). Additionally, most of the respondents—82 percent (13 of 16)—agree or strongly agree that the variables affecting their decision to stay on or leave AD change in the years after completing pilot training.⁶⁰ Opinions about the effectiveness of bonuses on retention are surprisingly less divergent.

Table 12. Bomber synthesis

	Air Force identity	Money & compensation	Promotion & recognition	Family & stability	Operations tempo	Other life goals
Bomber pilots	31.3%	75%	75%	87.5%	100%	56.3%
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16

Given that 75 percent of surveyed bomber pilots rate money and compensation as significant to retention, the number of pilots who relay that bonuses like the ACP are effective in contributing to retention is surprising. Only half (eight of 16) of the respondents agree that the ACP does a good job of retaining the best rated officers from their community. Only two of those officers surveyed disagree with this statement, leaving the remaining 38 percent (six of 16) neutral in their opinion.⁶¹ The gap between the two questions leads the author to conclude that while money contributes to bomber pilot retention, the ACP program in its current form is not enough to be of significant influence. Perhaps the pull toward the airlines is stronger given the closer similarities between commercial and bomber aircraft, as opposed to fighters or RPAs. Regarding aircraft type as an influencing factor on retention, bomber pilots had dissimilar responses.

Their views on the correlation between the type of aircraft available to fly and retention are mixed. When asked if the opportunity to fly the most advanced weapons systems was enough to stay on AD beyond the completion of an ADSC, 57 percent (nine of 16) of those surveyed disagree or strongly disagree with the fundamental premise while 31 percent (five of 16) agree or strongly agree.⁶² The remaining 13 percent are neutral in their opinion. Not only are bomber pilots' views about money and aircraft technology informative but also their perspectives about what would aid in retaining the best from their community.

The community voices strong opinions about retention. Almost all respondents—94 percent (15 of 16)—agree or strongly agree that more of the best officers would stay if the mission rather than administrative details received the most focus.⁶³ Further, 82 percent (13 of 16) agree or strongly agree that an increased focus on tactical competency as opposed to career progression would enable better retention.⁶⁴ The future strategic leaders of the Air Force may not need to be the best tactical pilots per se. However, failure to retain more of the best tactical officers in the short term as a result of the perceived diminished mission focus may contribute to a skewed pool of officers from which to promote to leadership positions in the future. While mission focus and tactical competency are pertinent retention factors for the bomber community, this is not the case for Air Force messaging.

Air Force messaging plays only a minor role in the retention of bomber pilots. Interestingly, surveyed bomber pilots appear to differ in their categorization of Air Force identity and messaging. Just one third (31.3 percent) state that identity is an influential variable for retention. However, about two-thirds (62 percent, or 10 of 16) agree or strongly agree that a closer alignment of Air Force messaging and spending would help to retain the best officers.⁶⁵ While

opinions diverge in this area, there is no such division when it comes to the topic of stability.

In keeping with fighter pilots' high rating of family stability on retention, bomber pilots overwhelmingly agree that stability and family welfare are critical to pilot retention. Respondents agree or strongly agree at a 94 percent rate (15 of 16) that more of the best would stay if family stability and welfare were better.⁶⁶ Conversely, very few believe that more of the best are leaving for opportunities outside of AD.

Opportunities beyond the USAF do not seem to be the catalyst driving bomber pilots out. Only 31 percent (five of 16) agree or strongly agree that the best are going to leave regardless of Air Force incentives for better opportunities in the Guard or Reserve.⁶⁷ A similar sentiment is expressed when the same question is posed about jobs in the civilian sector, with only 37 percent (six of 16) agreeing or strongly agreeing that the best pilots will leave regardless of offered incentives because of better opportunities or compensation in positions completely removed from the military.⁶⁸ The author interprets this to mean either that bomber pilots have a deep connection to remain on AD or do not currently see lucrative outside prospects. Either way, this is a salient point not answered by the collected data and requires further development for accurate identification.

To achieve greater fidelity with respect to the specific variables that are drawing bomber pilots out, future surveys and case studies must encompass a broader pool of solicited operators. Data results obtained through small case studies will otherwise continue to rely on conjecture and historical systems, like the ACP, to identify additional influential variables.

A review of the AFPC/DSYA *Rated Officer Retention Analysis* reports reflects that the bomber community held a higher than normal ACP take rate compared to the entire Air Force from 2006 to 2011. In FY 2012, however, the take rate dropped below the USAF average—attributable to a polarized bonus signing among the three bomber weapons systems. The B-1 community experienced a drastically lower take rate than their B-52 counterparts, perhaps indicating problems more specific to the B-1 versus general problems for the entire bomber community.

Contextual differences in communal definitions guide retention. The bomber community, for example, highlights operations tempo and family stability as two key variables for community retention. Notably, fewer operational bomber bases mean fewer PCS moves and increased stability for the family. However, increased deployment rates and requirements due to PRP programs have a different contextual effect than seen in other communities,

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such as the fighter community. Contextual differences in communal definitions may reveal themselves in other influential variables, such as promotion.

Bomber pilots value promotion and recognition more than is seen in the other case studies. Increased granularity in promotion statistics down to the individual weapons system would help identify communities experiencing problems, which may reflect in promotion rates. Similarly, the bomber community's greater emphasis on money necessitates better understanding of which pots of money are more or less influential in retention.

Combat system operators, while not part of the case study, arise in interviews and survey comments several times as a critically manned career field in the bomber community. Future studies must analyze the empathetic relationship that may exist between operators from the same community with different ACP offerings. Manning was of little concern for the bomber community, even with the mention of CSO shortages.

Bomber pilots are not concerned with either manning or their squadrons' combat readiness as a result of the best rated officers leaving AD. Similarly, they believe that enough of the best are available to lead bomber squadrons and provide for effective national security in the future. The community does worry, however, that senior leaders may not be aware of the quantity and quality of rated officers getting out. These sentiments resonate with the RPA community, but again, the reasons differ because of the contextual differences in the communities themselves.⁶⁹

Notes

1. Miller, *Masters of the Air*, 285.
2. From *ibid.*, which cites Colonel Flanagan's "Report on Survey of Aircrew Personnel in the Eighth, Twelfth, and Fifteenth Air Forces," April 1944, 23, Air Force Historical Research Agency archives, 141.28B.
3. See chap. 3, table 4, Total survey solicitations and responses by MWS and PME school, for response comparisons.
4. Results tabulated from Pilot Retention Survey, sec. 2, question 15, sorted for bomber pilot answers.
5. *Ibid.*, question 16.
6. *Ibid.*, question 19.
7. Pilots eligible for loss from the operational flying community include those who qualify for separation or retirement from AD, advance to colonel (O-6), are grounded, or are subsequently removed from active flying status for other reasons.
8. Compiled from a review of AFPC/DSYA, *Rated Officer Retention Analysis* reports, FY 2000–FY 2012.
9. *Ibid.*
10. For further information on force shaping, see the discussion in chap. 3 and Elkins, "Force Shaping Board Details Announced."

11. Palace Chase is an Air Force program allowing qualified active duty personnel to transfer to the ANG or AFR before the expiration of their current ADSC. Palace Chase falls under AFI 36-3205, *Applying for the Palace Chase and Palace Front Programs*.

12. Gettle, "Force Shaping Necessary."

13. Ibid.

14. Palace Chase and force-shaping measures are applicable across all rated communities and are contained in this chapter merely as a discussion point. This does not infer that these initiatives are more or less influential for bomber pilots as compared to any other rated officer.

15. AFPC began tracking ACP take rates by individual weapons systems beginning in 2005. Data before this report highlights only the total ACP take rate for all rated communities combined.

16. AFPC/DSYDT, *MWS ACP Summary*, 2012.

17. Compiled from a review of AFPC/DSYA, *Rated Officer Retention Analysis* reports, FY 2000–FY 2012.

18. Ibid., FY 12, 3.

19. Ibid., 4.

20. Breedlove, statement, in Senate, *Department of Defense Authorization for Appropriations for Fiscal Year 2013*, 128.

21. Jeff Schogol, "B-52 Turns 50, but Has Lots of Life Left," *Air Force Times*, 21 October 2012, <http://www.airforcetimes.com/news/2012/10/air-force-b-52-turns-60-has-lots-life-left-102112w>.

22. The first production B-1B flew in October of 1984 and the first B-2 in July of 1989, which compared to the B-52's first flight in 1954 constitutes a vast difference in age between platforms. For more information, see the B-1, B-2, and B-52 fact sheets, USAF website.

23. AFPC/DSYDT, *MWS ACP Summary*, 2012.

24. Ibid.

25. Results tabulated from Pilot Retention Survey, sec. 2, questions 10 and 11, sorted for bomber pilot answers.

26. Lt Col B. Gallo (commander, 509th Operations Support Squadron, Whiteman AFB, MO), interview by the author, 30 January 2013.

27. Maj J. Peterson (SAASS Class XXII student and B-1 pilot), anecdotal conversation with the author.

28. The five CONUS bases referred to include Whiteman AFB, Missouri (B-2 Wing); Dyess AFB, Texas (B-1 Wing); Ellsworth AFB, South Dakota (B-1 Wing); Barksdale AFB, Louisiana (B-52 Wing); and Minot AFB, North Dakota (B-52 Wing).

29. One survey respondent observes that the B-2 community is an anomaly of the proximity and ease of obtaining a position with the ANG. The pilot notes that "one can trade patches and fly the same airplane and at the same time buy some family stability." The irony is that only one wing is tasked to fly B-2s, so the definition of "stability" must be contextually different between fighter and bomber communities. This comment spurred the contextual discussion in the bomber section.

30. USAF DOC statements determine readiness levels of individual units tasked for a particular mission. As such, bomber communities with dual DOC statements have to maintain readiness for both, inevitably increasing operations tempo.

31. While the F-15E platform is also nuclear capable, B-2 and B-52 aircraft within Global Strike Command support the majority of fixed-wing nuclear operations.

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32. It is important to highlight that not all bombers share in the nuclear commitment. The B-1 community does not have a nuclear mission, which is why it still falls under ACC. The B-2 and B-52 possess a nuclear mission; therefore, these two communities fall under Global Strike Command.

33. The PRP program is designed to ensure that each member who performs duties involving nuclear weapons meets certain criteria to guarantee the safety, security, and reliability of nuclear assets, which requires additional security and training measures above that of an Airman not tasked with the nuclear mission. See Moless, "PRP Program Ensures Airmen Are Ready 24/7."

34. DOD 5210.42-R, *DOD Nuclear Weapons Personnel Reliability Program*, 2.

35. *Ibid.*, 25–30.

36. *Ibid.*, 35–41.

37. Josh White, "In Error, B-52 Flew over U.S. with Nuclear-Armed Missiles," *Washington Post*, 6 September 2007, http://www.washingtonpost.com/wp-dyn/content/article/2007/09/05/AR2007090500762_pf.html.

38. Thompson, "Nuclear Fallout at the Air Force."

39. Gallo, interview.

40. Results tabulated from Pilot Retention Survey, sec. 2, question 9, sorted for bomber pilot answers.

41. Specifically highlighted for the RPA community in sec. 527 of House Armed Services Committee, National Defense Authorization Act for FY 2013, 94.

42. Results tabulated from Pilot Retention Survey, sec. 2, question 8, sorted for bomber pilot answers.

43. This observation does not reflect comments from the bomber pilot community. The author finds it interesting that a lower than average number of pilots (as compared to the USAF average) signed the ACP, but according to current bomber pilots, it is an influential variable.

44. US GAO, *Military Cash Incentives*, 10.

45. This point applies equally to all Air Force communities with crew members requiring an aeronautical rating of pilot, including fighter pilots as well as RPA pilots who attended UPT. Its placement here does not imply it is more or less influential on bomber pilots and is merely a point of discussion.

46. Weber, briefing, subject: ASAM '13 Orientation.

47. *Ibid.*

48. However, the author notes that in 2013 (since the writing of this paper), the Air Force began offering CSOs the ACP bonus.

49. In 2010 weapons system operators, electronic weapons officers, and navigators were combined under a single Air Force Specialty Code, that of a CSO.

50. Anonymous responses, Pilot Retention Survey.

51. Results tabulated from Pilot Retention Survey, sec. 3, question 22, sorted for bomber pilot answers.

52. *Ibid.*, question 23.

53. *Ibid.*, question 24.

54. *Ibid.*, question 25.

55. Anonymous responses, Pilot Retention Survey.

56. *Ibid.*

57. *Ibid.*

58. Results tabulated from Pilot Retention Survey, sec. 3, question 26, sorted for bomber pilot answers.

59. Ibid., sec. 4, question 32.

60. Ibid., question 30.

61. Ibid.

62. Ibid., question 31.

63. Ibid., question 34.

64. Ibid., question 32.

65. Ibid., question 31.

66. Ibid., question 37.

67. Ibid., question 38.

68. Ibid., question 39.

69. For more information about the bomber community survey, please contact Lt Col Brian Stahl at brian.t.stahl.mil@mail.mil.

Chapter 5

The Remotely Piloted Aircraft Community

We have just won a war with a lot of heroes flying around in planes. The next war may be fought by airplanes with no men in them at all. Take everything you've learned about aviation in war, throw it out of the window, and let's go to work on tomorrow's aviation. It will be different from anything the world has ever seen.

—Gen Henry “Hap” Arnold

Research and development of unmanned aerial systems (UAS) for military purposes have been around almost as long as powered flight. The idea of a specialized pilot for these systems, however, is a relatively recent innovation. The background information presented on this emergent operational field first provides some context for the analysis of the RPA community survey.

In 1917 Charles F. Kettering launched the Aerial Torpedo “Bug,” thus beginning the American pursuit of UASs.¹ Designed to fly autonomously for a predetermined period, the Bug used an internal set of pneumatic and electrical controls to fly toward a target. After reaching the time limit, the wings would release, allowing the weapon to plunge to the ground and detonate on impact.² Pursuit of UASs continued for the next several decades—albeit slowly and veiled by secrecy—until the Cold War mandated an increase in information collection.³

Competition with the Soviet Union for international preeminence required the United States to improve its reconnaissance and information collection capability. As a result, the “Red Wagon” program materialized, signed into being by the CSAF, Curtis LeMay, for development of an unmanned drone for reconnaissance missions in direct response to the shootdown of Francis Gary Powers’s U-2 in 1960.⁴ Pursuit of the unmanned aerial vehicle (UAV) was “one of the many avenues that held possibilities for answering the air defense challenge,” but ultimately the technological limitations, continued demand for secrecy, and rising cost resulted in the post–World War II generation of UASs losing out to the burgeoning field of satellites and manned aircraft like the SR-71.⁵

Contributing to the mission loss was an underlying current of parochialism pertaining to unmanned aircraft performing missions previously done by manned systems.⁶ Despite the initial challenges, UASs would continue to see limited action, collecting information on China, North Korea, Russia, and

Vietnam in the 1970s.⁷ After Vietnam, however, UAVs did not regain significant traction until a new organization, the Defense Airborne Reconnaissance Office (DARO), established centralized control of UAV development.⁸

Created in 1993, DARO grew from two fundamental propositions: (1) remove the services' parochial control that limited cheap and effective UAV development, and (2) circumvent the services' power by centralizing management structure under OSD civilians, accountable directly to Congress.⁹ DARO controlled the preponderance of UAS budget allocations and equipped the services that maintained operational control of the UAV platforms. This striation of control—paired with congressional conflict over budgetary loss for conventionally manned systems—resulted in the disbandment of DARO in 1998, with only one UAS surviving the breakup.¹⁰ Known as the RQ-1A Predator, that survivor of the DARO system set the stage for all future UAS systems.

Military use of UASs like the Predator increased substantially after 1998 as low-intensity conflicts and counterinsurgency (COIN) operations supplanted warfare fought by large fielded forces, like those seen in Desert Storm. The asymmetrical advantage gained by using UAVs in Kosovo, Iraq, Afghanistan, Libya, and Pakistan continues to bolster the pursuit of increased UAS capability.¹¹ Because of this advantage, senior governmental leaders, combatant commanders, and tactical operators argue for increasing numbers of UAV combat air patrol (CAP) missions, creating a demand for RPAs that has outpaced traditional Air Force sourcing for manning a weapons system.¹²

The request for CAPs has increased eightfold since 2005, creating an untenable draw of pilots from manned platforms to operate UASs. In less than 10 years, the number of requested RPA CAPs has increased from eight in 2005 to a projected 65 in 2014.¹³ Two USAF assets—the RQ-1A (now known as the MQ-1A) Predator and the MQ-9 Reaper—primarily fly these CAPs.¹⁴ The RQ-4 Global Hawk and RQ-170 Sentinel fly additional CAPs not included in the projected numbers above. To ensure sufficient numbers of these four aircraft match the growing numbers of CAP requests, the projected Air Force inventory of UASs will increase from 340 in FY 2012 to approximately 650 in FY 2021.¹⁵ Given the “unmanned” moniker, the number of human operators required to operate each individual aircraft can be lost in the technological capability.

While unmanned in the physical sense, the majority of military UASs continue to have an existential connection to human operators in the loop. Each RPA requires an “aircrew that comprises a pilot and a sensor operator at both the continental United States–based mission-control element (MCE) and the deployed launch-and-recovery element (LRE).”¹⁶ One CAP requires 10 of

these crews to ensure continuous 24/7 coverage, meaning 65 CAPs in 2014 would call for a minimum of 1,300 pilots to simply meet requirements.¹⁷ When you factor in a normal operations schedule, this number grows to nearly 1,700 required RPA pilots.¹⁸ This is a huge number of pilots to train in a short period, especially for a young career field that until 2009 gleaned all of its operators from other manned weapon systems.

The maturation of the RPA career field has been tumultuous, drawing operators from other weapons systems while the nation has been continuously engaged in war. The number of pilots pulled to operate a nonprimary weapons system was unable to meet the growing demand without influencing the manned platform experience.¹⁹ Before 2009, pilots supplemented RPA units in one of three ways. The first was a traditional “ALFA” tour whereby aircrew served one assignment in RPAs and then returned to their primary major weapons systems.²⁰ The second initiative, TAMI-21 (October 2007 through January 2008), pulled overages from the fighter and bomber communities to fly RPAs and resulted in 40 permanent pilot reassignments.²¹ The final method sent 244 pilots directly from UPT to RPAs for one assignment.²² While these methods gained much-needed personnel, they did little to foster the sense of community identity prevalent in the fighter and bomber communities (as evidenced in the opening discussions of chapters 3 and 4).

Conglomerated for short durations from multiple communities, the early RPA units had little framework on which to hang a Robin Olds persona as their champion. Similarly, they were unable to maintain personnel long enough to develop distinguishable RPA traits, like those found in bomber pilots of World War II. After 2009, however, the RPA community took its first steps towards a champion with distinguishable traits. It became its own unique entity, garnering a distinctive Air Force Specialty Code, along with assigning 477 pilots on an RPA ALFA tour to remain in the RPA career field permanently. Further, the Air Force launched a program to develop a distinct UAS training program, separate from traditional Air Force pilot training, with the express purpose of teaching skills specifically tailored for UAS operations.²³ The first formal Undergraduate RPA Training (URT) class began in October 2010.²⁴ As the RPA community develops as a distinct entity within the USAF, it will face the trial of retaining those it worked so hard to acquire.

Maturation of the RPA community will come with the same trials and tribulations experienced by the fighter and bomber communities with respect to retention. Building on the premise that contextual differences among these communities will influence the retention of rated officers within those groups differently, the focus now turns to the RPA demographic. The same influential

variables are discussed as for the fighter and bomber demographic, along with nuances particular to this community.

While the structural organization of the information presented remains the same, the content varies because of the limited data available due to the early developmental stage of the RPA community.²⁵ As with the fighter and bomber communities, Pilot Retention Survey data and historical ACP take rates were analyzed and squadron commanders interviewed. Since AFPC retention statistics are insufficient to be useful, however, an assessment of projected RPA force structure development serves as the conduit for continued analysis.²⁶

Despite the limited available data, this research seeks to answer for the RPA community the same three questions asked of its fighter and bomber counterparts. First, does the RPA community have a retention problem? Second, what are the risks to the future of the USAF if a retention problem does exist? Finally, if a problem does present itself, is there anything the Air Force can do to fix it? This chapter addresses the first two questions with respect to the RPA community while chapter 7 addresses the third for all three communities of interest.

RPA pilots comprise 19 percent (23 of 118) of the rated community solicited for the Pilot Retention Survey given to AU students. Only 57 percent completed the survey (13 of 23). The smallest surveyed group at AU, RPA pilots comprise just 14 percent of total respondents (13 of 93).²⁷ Similar to the bomber community, the small number of RPA pilots participating in the survey affects the statistical validity of this group's responses.

The margin of error for RPA responses is higher than desired. The data pool of 657 RPA pilots serving on AD in FY 2012 would require a sample size of 243 RPA pilots to reflect the opinion of all Air Force RPA pilots with a 5 percent margin of error. Correspondingly, of the 23 RPA pilots assigned to AU at the time of survey, 22 total responses would allow for accurate representation of all RPA pilots assigned to AU with a 5 percent margin of error. With 13 actual respondents, the margin of error for AU RPA pilots is 20 percent.

Is There a Retention Problem in the RPA Community?

The RPA community's perceptions of retention mirror those of the fighter and bomber communities. Eighty-five percent (11 of 13) of survey respondents agree or strongly agree that their flying community is experiencing—or is expecting—a retention problem in the near future.²⁸ Further, 69 percent (9 of 13) agree or strongly agree that the best officers from the RPA community

are electing to leave the Air Force before retirement age.²⁹ With respect to the best officers leaving the RPA community, 69 percent (9 of 13) of respondents believe those officers made their decision to separate well before their active duty service commitment expired and before the ACP became available.³⁰ The RPA community is not only substantially younger than the fighter and bomber communities but is also evolving in unique ways, which is informative in characterizing the pool of officers that sustains this platform.

Creation of a stable career path for RPA pilots in a distinct career field does not immediately quell the diversity within the community. In fact, current projections do not have the RPA community reaching 100 percent manning until 2017, with historic rates hovering between 70 and 80 percent.³¹ Forecasts for RPA manning require continued supplementation from UPT until FY 2016 and from ALFA or traditionally trained pilots until 2023 (fig. 14).³² Consequently, attributions of losses from the RPA community are difficult to assess.

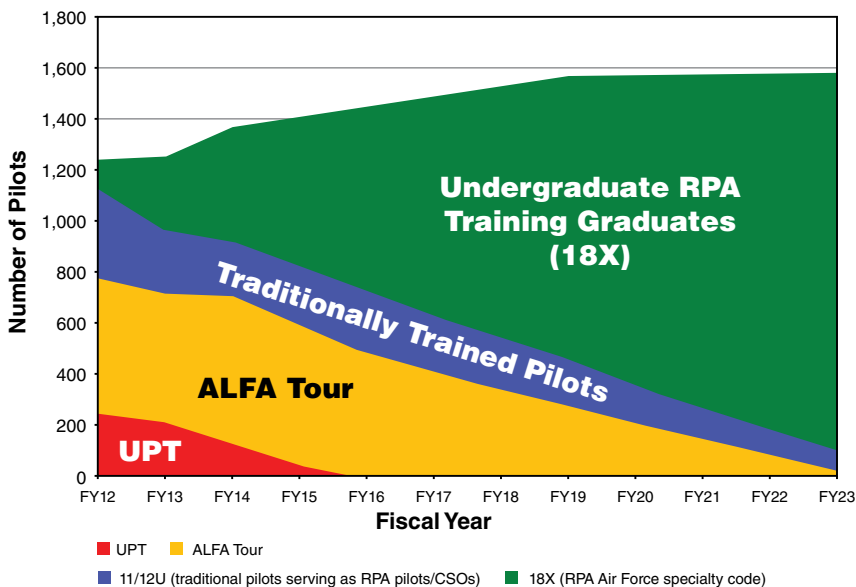


Figure 14. Projected distribution of UAS demographics until FY 2023. (*Adapted from Maj Theodore “Lucky” Shultz, AF/A3O-AC, briefing, subject: MCE Pilot Manning Ratio, Version 4, February 2013, and briefing, subject: RPA Career Field Growth, June 2012; and discussions with Lt Col Bryan “Squeeze” Callahan, SAASS Class XXII student and RPA weapons instructor, 2013.*)

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The varied backgrounds of pilots comprising the pool of RPA operators make assessing actual retention rates for the community at large statistically difficult. Statistically relevant retention rate analysis will occur when URT graduates outnumber those from other communities—projected to occur in or about FY 2016.³³ Also, the first graduates from URT have not reached the end of their initial ADSCs. The majority of beta test graduates will reach the end of their six-year ADSCs in FY 2016, at which point the USAF will be able to get a perspective for RPA retention.³⁴ Because of the limited data pertaining to RPA retention rates, the only other measure available for analysis is the historical ACP take rate since 2007 (fig. 15). Thus far, RPA ACP take rates have been sporadic at best.

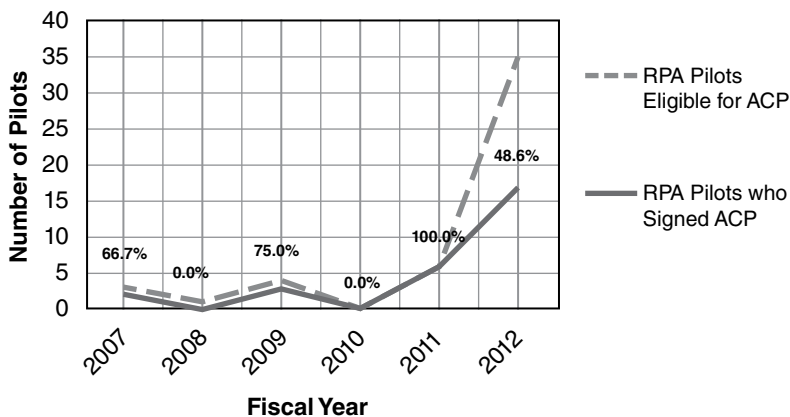


Figure 15. RPA pilot ACP take rates by fiscal year. (Adapted from AFPC/DSYDT, *MWS ACP Summary*, 2012, Air Force Personnel Statistics: Static Reports, accessed 18 December 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.)

Until 2012 the irregular results derived from the small number of pilots, most often numbering less than five, eligible for the ACP each FY. In FY 2012, however, the number of RPA pilots eligible for the ACP jumped dramatically. The first indication of ACP's effectiveness for retaining RPA pilots was poor at best. The average ACP take rate for the RPA community in 2012 was 48.6 percent, versus 66.5 percent for all Air Force rated pilots (table 13).³⁵ While FY 2012 was only the first gauge of ACP's success, these results should still create some worry for USAF leadership.

Table 13. ACP take rate comparison between all rated communities and the RPA pilot community

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)		Nontakers	Take rate percentage
Initial	550		277	66.5%
RPA pilots	Initial 5 year	Initial 5 year 50%	Nontakers	Take rate percentage
Initial	5	12	18	48.6%
Uncommitted	0	0	5	
RPA initial	0	0	1	0%
Uncommitted	0	0	0	

Adapted from "2012 ACP Agreements Finalized," sorted by all rated communities and the bomber community, in AFPC/DSYDT, MWS ACP Summary, 2012, Air Force Personnel Statistics: Static Reports, accessed 18 December 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

When expanded to encompass all four of the MWSs that comprise the core of the RPA community, the results remain similarly low. Retention rates among the different platforms were not notably different. For example, the RQ-1A (also known as the MQ-1) had the highest ACP take rate in FY 2012, with 60 percent (6 of 10) of eligible pilots electing to sign the bonus.³⁶ The RQ-4 Global Hawk (3 of 6) and the RQ-170 Sentinel (1 of 2) tied at a 50 percent ACP take rate among eligible pilots.³⁷ The MQ-9B Reaper split the difference between the aforementioned aircraft, with 54.5 percent (6 of 11) of those pilots eligible electing to sign the bonus.³⁸ Table 14 shows a breakout of individual RPAs as compared to the USAF average for 2012. Attributing causal reasons for the low ACP take rates is difficult due to limited data.³⁹ What is clear, however, is that the surveyed RPA community has a distinct opinion about factors that most influence retention.

Given the diverse backgrounds of individuals currently in the RPA community, one would think that the reasons for retention would vary.⁴⁰ However, this is not the case. Two variables emerge as unequivocally important, with a third worthy of mention. Similar to fighter and bomber pilot survey results, operations tempo and family stability tiered first and second, respectively, with other life goals coming in third. Markedly, 100 percent (13 of 13) of those surveyed rank operations tempo as very or quite important to retention, while 92 percent (12 of 13) give family stability these ratings. While other life goals as a retention factor received a substantially lower percentage of the very or quite important ratings—67 percent (8 of 12)—its inclusion may indicate variables that should be explored.⁴¹ Table 15 shows all RPA community rankings. The way communities view influential variables is signifi-

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cant, and the operations tempo for RPAs is characteristically unlike that seen in other communities.

Table 14. ACP take rate comparison between all rated communities and individual RPA systems

All rated pilots	Total ACP takers (Initial 5 yr. and initial 5 yr. 50%)		Nontakers	Take rate percentage
Initial	550		277	66.5%
RPA pilots by weapons system	Initial 5 year	Initial 5 year 50%	Nontakers	Take rate percentage
RQ-1A Predator	2	4	4	60%
Uncommitted	0	0	4	
MQ-9 Reaper	1	5	5	54.5%
Uncommitted	0	0	1	
RQ-4 Global Hawk	1	2	3	50%
Uncommitted	0	0	1	
RQ-170	1	1	2	50%
Uncommitted	0	0	0	

Adapted from "2012 ACP Agreements Finalized," sorted by all rated communities and the bomber community, in AFPC/DSYDT, MWS ACP Summary, 2012, Air Force Personnel Statistics: Static Reports, accessed 18 December 2012, http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

Operations tempo for the UAS community does not revolve around multiple deployments or extended periods spent away from family. This is not to say that RPA pilots are immune to deployment or to infer a slower operational schedule than for other rated communities. RPA pilots are subject to the same air and space expeditionary force (AEF) deployment cycle as fighter and bomber pilots, and they experience the same draw of personnel to fill short-fall taskings.⁴² Further, RPA units have similar training cycles, with inspections, computer-based training, and education requirements. The RPA community differentiates from others in the grinding schedule of shift work, with no opportunity to enter "steady state" operations.⁴³ This grind—described as a long, slow burn as opposed to a short, high-intensity operation—takes a toll on an RPA pilot's quality of life and is exacerbated by personnel shortages and continued operations as a result of an unwavering wartime posture.⁴⁴

The wartime posture for an RPA crew is much different from that experienced by a fighter or bomber pilot. Each requested CAP is active 24 hours a day, 7 days a week, 365 days a year and requires a pilot, sensor operator, and mission intelligence coordinator.⁴⁵ Divided among three primary RPA crews,

daily shift schedules ensure one crew is manning each CAP for a desired maximum of six hours in the seat.⁴⁶ Optimally, each CAP has a break crew available, with one standby crew per shift to cover anomalies.⁴⁷ All told, if a squadron operates in five total CAPs, the total number of crews required per day is 24.⁴⁸ Until manning levels reach 100 percent, level of effort required by individual crew members will remain high.

Table 15. RPA pilot retention variables

Variable	Scale					Total responses
	Very important	Quite important	Fairly important	Slightly important	Not important at all	
Air force identity (AF messaging, mission focus, competency)	0	4	4	4	1	13
	0%	31%	31%	31%	8%	
Money/compensation (base pay, COLA, "bonuses," flight pay, benefits, etc.)	5	3	4	1	0	13
	38%	23%	31%	8%	0%	
Promotion/recognition (master's, PME)	2	2	5	3	1	13
	15%	15%	38%	23%	8%	
Family/stability (base location, quality of life, move timing)	9	3	1	0	0	13
	69%	23%	8%	0%	0%	
Ops tempo (deployments, manning, flying opportunities)	7	6	0	0	0	13
	54%	46%	0%	0%	0%	
Other life goals	6	2	3	1	0	12
	50%	17%	25%	8%	0%	
Summary	29	20	17	9	2	

As mentioned, the UAS community has been operating between 70 and 80 percent of its authorized personnel since its inception and does not expect to reach the 100 percent manning benchmark until 2017.⁴⁹ Much like in the fighter community, the relative amount of work per RPA pilot (and sensor operator) increases with personnel shortages—projected to continue for the near future. These RPA manning shortages limit opportunities for PME education, staff jobs, and other career-enhancing opportunities, creating an atmosphere—whether real or perceived—that RPA pilots do not have the same opportunity for advancement.

This debate reached the highest levels of political examination as the National Defense Authorization Act for FY 2013 mandated an Air Force investigation and report. Section 527 of that report requires the SECAF and CSAF to submit jointly a report identifying why RPA pilots have “persistently lower average education and training and promotion rates.” Additionally, USAF senior leaders are to provide an assessment of the long-term impact on the Air Force of the sustainment of these lower rates, along with a plan of action to raise such rates. The final requirement instructs the Air Force to describe near- and long-term actions needed to implement the plan, along with the impacts it will have on the USAF’s sustained combat air patrol objectives.⁵⁰ This final decree speaks to senior leader dependence on UAS information and capability and hints that if the mission is negatively affected, the net effect of poor career enhancement on an RPA pilot is acceptable. When paired with continued operations in a wartime posture, the slow burn increases in intensity. Further complicating the RPA community’s contextual definition of operations tempo is the inability to divest from the wartime effort for reconstitution—unlike its fighter and bomber counterparts—as its unique capability keeps it engaged continuously.

Fundamental to UAS desirability is the ability for RPA crews to operate from CONUS-based locations, thereby providing the Air Force cheaper and safer operations. Information collected by CONUS-based UAS aircrew reaches the end user through the Air Force distributed common ground systems (DCGS), which again primarily reside in CONUS or allied nations.⁵¹ This home station presence, however, translates into RPA pilots remaining continuously engaged in a wartime posture with no buffer between combat operations and normal home life. While fighter and bomber crews maintain deployed-to-dwell rates as high as 1:2, there is a period of emotional release associated with the reconstitution period. Moreover, while deployed, pilots can focus entirely on the mission at hand without the normal external demands of in-garrison operations. Divestment from the wartime posture is not

a luxury generally afforded RPA pilots, and the resultant strain caused by this contextually different operations tempo affects family stability.

The RPA community has contributed greatly to combat operations as well as to the command, control, intelligence, surveillance, and reconnaissance missions. General Welsh remarks that the RPA mission “has revolutionized the way we think about warfare.”⁵² Just as the view of warfare had to change because of UASs, so it must change because of the emotional and mental baggage associated with this field. The limited separation between wartime operations and normal family life that RPA pilots experience markedly affects them and their families.⁵³

Interviews with an RPA squadron commander validate the need to understand nuanced differences associated with combat operations using UASs. He conveys that notwithstanding a difference in the level of physical risk, RPA pilots do things that save lives and influence wars.⁵⁴ While not physically present in the geographic sense, they can track a potential target for days at a time. Compared to an F-16 pilot who views an objective through a targeting pod for 20 to 30 minutes, RPA pilots view an objective for hours or even days at a time, often observing family interactions and learning daily schedules of their mark.⁵⁵ This investment makes the finality of striking the target more personal. To have a kinetic interaction one hour and then to be home having dinner with the family the next creates a difficult emotional and mental discourse for the operator, which could bleed over to the family.⁵⁶ This brief anecdote exemplifies how contextual differences associated with one influential variable can affect another.⁵⁷ The inclusion of other life goals as an influential variable for retention highlights a growing opportunity for RPA operators outside the Air Force.

The DOD does not hold a monopoly on RPA development, and congressionally mandated future initiatives will only increase opportunities for UAS operators outside the military. In the FAA [*Federal Aviation Administration*] *Modernization and Reform Act of 2012* conference report, Congress directs the FAA to develop a comprehensive plan that would “safely accelerate the integration of civil unmanned aircraft systems into the national airspace system” by 30 September 2015.⁵⁸ Nonmilitary applications for homeland security, border patrol, law enforcement, coastal mapping, hurricane forecasting, and even the film industry could provide limitless opportunities for UAS operators in the very near future.⁵⁹ An RPA hiring boom, similar to the commercial aviation hiring boom discussed earlier, could spell disaster for another critical career field in the USAF.

Tedious shift work schedules, difficulty dividing war posture from home life, and increased civilian RPA applications could presage an impending RPA

pilot exodus. With the first beta group of URT-trained RPA pilots completing their six-year ADSCs in 2016 and the mandate to open FAA airspace by September 2016, lucrative offers from burgeoning civilian markets will make it difficult for the Air Force to retain UAS operators.⁶⁰ Comments from the Pilot Retention Survey point to future difficulties regarding RPA pilot retention.

Remarks about getting out of the Air Force pervade statements from surveyed RPA pilots. One respondent was a member of an initial RPA beta program and comments that his ADSC was six years, taking him through his 11th year of active service, and that he was unsure if he would stay or separate. A second officer is more direct, stating, "I have witnessed competent aviators lose all drive whatsoever from being overworked and burnt-out."⁶¹ These comments paired with additional survey data point toward noticeable risks within the RPA community.

What Are the Risks for the RPA Community?

Assessing the risk associated with poor retention in the RPA community is challenging given the small survey population and relative age of the community as a whole. Nevertheless, the information collected provides initial insight into the level of perceived risk for the RPA community, useable for development of future studies. As the community continues to mature as a distinct career field, manned primarily with officers specifically trained to be RPA pilots, the ability to assess risk accurately will increase. That said, the raw data gathered in the Pilot Retention Survey provides some discernment about RPA perceptions of risk and retention.

Based on information already presented, it is an acknowledged fact that the RPA community has been operating at suboptimum manning in a challenging operational environment. Interestingly, RPA pilots were less concerned with the risks associated with retention than about retention itself. When asked specifically if RPA squadrons were able to maintain a consistent level of manning, 61 percent (8 of 13) of respondents disagree or strongly disagree.⁶² Similarly, 61 percent disagree or strongly disagree that the combat readiness of their squadron was unaffected by the current rate of pilot separation from the Air Force.⁶³ Clearly, those surveyed demonstrate a general feeling that manning and combat readiness suffer because of current retention—but not so overwhelmingly as to indicate mission degradation.

When asked about the future of RPA leadership at the squadron commander level and above, survey respondents suggest an obvious concern. Over two-thirds of all RPA respondents (9 of 13) agree that the best rated of-

ficers they expected to see leading their community at the squadron command level and above are leaving AD well before reaching that milestone.⁶⁴ However, none of the respondents strongly agree, which could be indicative of the current group dynamic. Given the number of pilots that operate RPAs as a single assignment and then return to their previous MWSSs, it is likely that these responses will remain skewed until pilots raised within the RPA community reach squadron command. Equally imbalanced were RPA opinions pertaining to US security as it equates to leadership.

Concern about future leadership translated directly into apprehension for the future security of the United States. Sixty-nine percent (9 of 13) of RPA pilots agree or strongly agree that security would be weaker because of the best officers electing to separate from AD after their initial ADSCs.⁶⁵ Again, it is plausible that responses to this question are one-sided given the relative age of the community. As the community continues to mature, with leaders developed from within, concern about the best officers and security may normalize to values seen in the fighter and bomber communities. Until home-grown pilots are leading RPA squadrons, the underlying opinion appears to be that the RPA community will suffer from senior leader parochialism and entrenched thinking.

Sentiments concerning the depth of senior leadership understanding of the RPA community are compelling. An RPA lieutenant colonel observes that "there has been a pattern of organization resistance to full integration of RPA into USAF culture."⁶⁶ This sentiment reflects mildly in survey results, which reveal 46 percent (6 of 13) of respondents disagree or strongly disagree that current Air Force senior leadership has a good understanding of the quantity and quality of rated officers leaving after their initial ADSCs. An additional 31 percent (4 of 13) are neutral, leaving only 23 percent (3 of 13) to agree.⁶⁷ To effect change, leadership throughout the RPA chain of command must have an integral knowledge of the variables affecting crew burnout and retention.

In a separate North Atlantic Treaty Organization report, researchers identify that while "medical resources can advise commanders and help individuals, on the whole . . . policy and line commanders have the greatest influence on factors affecting occupational burnout."⁶⁸ This suggests that the preponderance of growth for the RPA community will come out of innovative and bold line commanders able to translate to senior leaders and encourage positive retention. To effect long-term change in the RPA community, retention of these same line commanders to senior leader ranks is critical.

Findings and Summary for the RPA Pilot Community

Results from this case study indicate that the RPA community is concerned with retention and, as such, identifies the variables that have the most effect. It pinpoints operations tempo and family stability and adds a third notable variable of other life goals (table 16). Most pilots (84 percent [11 of 13]) agree or strongly agree that factors affecting the decision to stay on or leave AD have changed since completing pilot training.⁶⁹ Most disagree, however, that ACP does a good job of retaining the best from the RPA community; only 31 percent (4 of 13) of respondents agree or strongly agree with this statement.⁷⁰ Equally ineffectual as the ACP on retention is the notion of flying new and advanced aircraft. RPA pilots do not believe that the opportunity to fly the newest weapons systems is enough to keep them on AD beyond their initial ADSCs. Of those surveyed, 53 percent (7 of 13) disagree or strongly disagree with the premise, with an additional 15 percent (2 of 13) expressing a neutral opinion and 30 percent agreeing or strongly agreeing.⁷¹

Table 16. RPA synthesis

	Air Force identity	Money & compensation	Promotion & recognition	Family & stability	Operations tempo	Other life goals
RPA pilots	30.8%	61.6%	30.8%	92.3%	100%	66.6%
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12

Given that money and the opportunity to fly advanced weapons are not incentives, RPA pilots provide areas specific to their community to increase retention of the best. Most agree (84 percent [11 of 13]) that more of the best RPA pilots would stay on AD if the mission were more of the focus and not administrative details.⁷² Further, 76 percent (10 of 13) indicate that more focus on tactical competency as opposed to career progression would positively enhance retention of the best past initial ADSC commitment.⁷³ However, mission focus and competency are only partial components of the RPA picture.

Also interconnected to retention of the best RPA pilots are Air Force messaging and family stability. When asked if more of the best rated officers who leave AD would stay if Air Force messaging were more in line with its spending, 69 percent (9 of 13) of respondents agree or strongly agree.⁷⁴ The importance of messaging matching action carries over to the service member's family. Respondents overwhelmingly agree (92 percent [12 of 13]) that more of the best would stay if family stability and welfare improved.⁷⁵ This statistic matches the overall opinion held by RPA pilots that family stability is an over-

whelmingly influential variable for retention. As important as messaging and stability are, better opportunities elsewhere are equally unimportant.

RPA pilots do not believe that the best rated RPA pilots are leaving because of better opportunities. Only 31 percent (4 of 13) think this demographic is leaving for the Guard or Reserve, with slightly more—38 percent (5 of 13)—believing these pilots are leaving for the civilian sector.⁷⁶ However, this latter factor may increase as opportunities there or in other non-DOD government agencies expand in the future. These statistical results provide credence to opinions offered by RPA pilots and help identify focus areas for retention improvement.

Maturation of the RPA career field has been a long process—one often veiled in secrecy and overshadowed by parochialism from manned aircraft advocates. Until recently, emphasis on RPA utility was sporadic at best. Recent successes, though, have created an insatiable appetite for the unique capabilities of RPAs, resulting in requirements outpacing capacity.

The young community sprang from a conglomeration of initiatives meant to bolster personnel numbers. However, the success in boosting numbers has had a secondary effect, leaving the RPA community without a unique identity or internal champion. This effect began to change with the establishment of a distinct RPA community in the USAF force structure with its own dedicated training pipeline.

Like any military bureaucracy, development of these homegrown officers from tactical experts to influential senior leaders will take time. Until a preponderance of the officers within the RPA community are a product of the newly established homegrown initiative, accurate assessment of influential retention variables on the community will be difficult. Thus, historical assessments like ACP will have to suffice but only as a starting point for future studies.

If FY 2012 ACP take rates and the expected opening of civil airspace to UASs in FY 2016 are indicators of future retention, loss projections of RPA pilots could mirror those seen from manned flight communities to the airlines. This potential is reflected in the importance RPA pilots place on other life goals and necessitates further specification and analysis.

Contextual differences in the definitions of operations tempo and family stability for RPA pilots are important to understanding retention within the community. Being primarily CONUS based and physically removed from harm does not remove the mental and emotional stresses unique to the RPA mission, which ultimately affect family stability. Additionally, trying shift work schedules exacerbated by manning shortfalls and increased CAP requests add strain to an already thin margin for operations tempo and family stability.

RPA community contributions to the war effort and elsewhere have unequivocally been substantial. However, overreach by political senior leaders with respect to promotion rates and awards may be an aspect of the internal Air Force view of the community as a pariah. Forced maturation of a community—whether through investigation of promotion rates or proposed military decorations—has a visceral effect internal and external to the Air Force.⁷⁷ The concern implied by a congressionally mandated investigation into promotion and training rates for RPA pilots does not resonate in surveyed RPA pilot responses. However, because the subject pool is small and those attending AU are among the top of their respective career fields, a larger survey of randomly selected RPA pilots would clarify this finding.

RPA pilots are concerned with manning as well as its effect on combat readiness. They also view departure of the best as negatively affecting not only the future of RPA leadership but also the security of the United States. They do not indicate that Air Force senior leadership's awareness of this exodus is problematic.

This study reveals that pay incentives (ACP and ACIP) reflect a limited understanding of and approach to pilot retention within the surveyed aviation communities. The importance of developing each community of interest separately is evident in the diverse nature of their responses. Broadly speaking, each community identifies similar variables as influencing retention of the best—but for contextually different reasons. Discussed next are a synthesis of the three communities and the statistical significance associated with their comparison.⁷⁸

Notes

1. National Museum of the US Air Force, "Kettering Aerial Torpedo 'Bug,'" fact sheet.
2. Ibid.
3. *UAV*, *RPA*, and *UAS* describe the community and the unmanned aircraft it operates. The author uses *UAV* in this paper when referenced specifically as such in a historic context or an academic work. When referring to individual unmanned aircraft, the author uses *remotely piloted aircraft* to denote a singular system, even if not specifically referenced. When referring to the aggregate collection of RPAs, the author uses *unmanned aerial systems* to denote plurality.
4. Ehrhard, *Air Force UAVs*, 6.
5. Ibid., 6–9, 43.
6. Ibid., 7, 38.
7. The programs comprising the majority of these missions were Tagboard, Senior Bowl, Lightning Bug, Compass Arrow, Combat Dawn, Advanced Airborne Reconnaissance System (AARS), and Buffalo Hunter, covered extensively in Dr. Ehrhard's study (ibid., 8–19, 23–38).
8. Spinetta, "Remote Possibilities," 194.
9. Ibid., 187.

10. Ehrhard, *Air Force UAVs*, 47–49.
11. Gertler, *U.S. Unmanned Aerial Systems*, 1.
12. Shultz, briefing, subject: RPA Career Field Growth.
13. Ibid., slide 2.
14. For information about individual UASs, see the USAF fact sheets, <http://www.af.mil/AboutUs/FactSheets.aspx>.
15. DOD, *Aircraft Procurement Plan*, 4, 10.
16. Hardison, Mattock, and Lytell, *Incentive Pay*, xiii.
17. Ibid., xiv. The number 1,300 accounts for total pilots required in the MQ-1/9 enterprise to fill MCE, LRE, formal training unit, and additional billets (ibid.).
18. Baldor, “Next Top Guns?”
19. Shultz, briefing, subject: RPA Career Field Growth, slide 2.
20. An ALFA tour refers to a temporary midcareer assignment for pilots to positions such as an ALO, flight instructor, or UAV pilot. Because they take pilots away from their primary weapons systems, ALFA tours are often nonvolunteer and shied away from by operational CAF pilots. See Michael Hoffman, “UAV Pilot Career Field Could Save \$1.5B,” *Air Force Times*, 1 March 2009, http://www.airforcetimes.com/news/2009/03/airforce_uav_audit_030109.
21. Shultz, briefing, subject: RPA Career Field Growth, slide 5. TAMI-21 refers to the Transformational Aircrew Management Initiatives for the 21st Century, implemented with the intent of providing a one-time adjustment to the overall balance of USAF force structure and manning. For more information, see Hebert, “Every Pilot in His Place.”
22. Shultz, briefing, subject: RPA Career Field Growth, slide 5.
23. Schwartz, keynote address.
24. Shultz, briefing, subject: RPA Career Field Growth, slide 6.
25. Jacobson to author, e-mails.
26. Further expanding on the limited data, review of the AFPC analysis reports reveals that the “Pilot ACP Take Rates by MWS” section did not distinguish RPA take rates until FY 2007 and only started tracking RPA “Overall Losses” in the FY 2012 report. Maj E. J. Jacobson (RPA Capabilities Office, Pentagon) attributes this lack of data to the fact that almost all RPA pilots until 2009 were on ALFA tours, “on loan” from other communities. Because these pilots were “owned” by other communities, they were not eligible for loss from the RPA community. These are relatively new developments (2009 and on), which leads to limited available data.
27. See chap. 3, table 4, Total survey solicitations and responses by MWS and PME school, for response comparisons.
28. Results tabulated from Pilot Retention Survey, sec. 2, question 15, sorted for bomber pilot answers.
29. Ibid., question 16.
30. Ibid.
31. Maj Ted J. Shultz (AF/A3O-AC), e-mail discussions with author, 20 March 2013.
32. The rates for UPT supplementation drop to 3 percent of the total UAS manning in 2015 and fall to zero the next year. ALFA tours currently supplement 40 percent of UAS manning, projected to fall to 20 percent in FY 2018 and to 2 percent in 2023. Other traditionally trained pilots who are permanently recategorized in the RPA community supplement 20 percent of UAS manning, expected to drop to 10 percent in FY 2019 and to 5 percent in FY 2023. Shultz, briefing, subject: RPA Career Field Growth, slide 8.
33. Shultz to author, e-mails.
34. Ibid.

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35. AFPC/DSYDT, "MWS ACP Summary," 4.

36. Ibid.

37. Ibid.

38. Ibid.

39. Anecdotally, Colonel Callahan mentions that operations in MQ-9 squadrons have been particularly rough. Standing up Holloman was difficult because of the fractioning of the original MQ-9 squadron to stand up additional squadrons. As a result, the sense of community within the MQ-9 world is low. Compare this to the original cadre of MQ-9 pilots (the 42nd Attack Squadron). Close to half of the WIC graduates flew with the 42nd at some point before the split prior to going to WIC.

40. Descriptors included with the influential variables helped clarify the categories for survey respondents. The descriptors used are Air Force identity (AF messaging, mission focus, competency), money/compensation (base pay, cost of living, bonuses, flight pay, benefits), promotion/recognition (master, PME), family/stability (base location, quality of life, move timing), and operations tempo (deployments, manning, flying opportunities).

41. Results tabulated from Pilot Retention Survey, sec. 2, questions 7–12, sorted for RPA pilot answers.

42. For more information about the AEF, see AFPD 10-4, *Operations Planning: Air and Space Expeditionary Force (AEF)*, 30 April 2009, with Air Force Policy Memorandum 2, 18 July 2013, http://static.e-publishing.af.mil/production/1/af_a3_5/publication/afpd10-4/afpd10-4.pdf.

43. "Steady state" refers to a normalized schedule of preparation for deployed operations, generally executed in the USAF through the AEF cycle. Whereas the AEF Next cycle allows a normal 18-month period to train, spin up, and deploy for operations, AEF rotations consist of nine months of on-station training (dwell time) followed by a three-month deployment spin-up and a six-month deployment. The RPA community has continuous operations throughout the *entire* AEF cycle, and given the personnel shortage and increased CAP demands, its level of required effort is increasing. For more information on the AEF Next cycle, see the AEF Online website via the Air Force portal, <https://aef.afpc.randolph.af.mil/default.aspx>.

44. Lt Col Bryan Callahan (SAASS Class XXII student and RPA weapons instructor), interview by the author, March 2013.

45. Shultz, briefing, subject: MCE Pilot Manning Ratio, slide 6.

46. For more information about the physical and psychological effects of occupational stressors associated with the RPA community, see Chappelle, Salinas, and McDonald, *Psychological Health Screening*.

47. Shultz, briefing, subject: MCE Pilot Manning Ratio, slides 8–10.

48. Daily required crews were calculated as follows: Five total CAPs x 3 crews per CAP = 15 primary crews. Fifteen primary crews + 6 break crews per day + 3 standby crews per day = 24 total crews to man five CAPs 24/7 with no consideration for normal overhead, leave, or days off. With a desired CAP to crew ratio of 12:1, RPA pilots maintain a five-day-on, three-day-off shift schedule. Additional CAPs or reduced manning will drive the shift schedule higher. For example, reducing the pilot to sensor operator ratio from 12:1 to 9:1 drives a six-day-on, two-day-off schedule while a 6:1 ratio drives a seven-day-on, one-day-off schedule with no leave, PME, or continuation training.

49. Shultz to author, e-mails.

50. House Armed Services Committee, National Defense Authorization Act for 2013, sec. 527 (a) and (b), 94.

51. DCGSs are primarily CONUS based and provide the “capability to task sensors, process sensor data, exploit sensor data from multiple sources, and disseminate intelligence products” from multiple assets, including, but not limited to, Air Force UAS assets. For more information, see OSD, “Air Force Distributed Common Ground Segment,” *FY 2010 Annual Report*, 181–82.

52. 432d Wing/432d Air Expeditionary Wing Public Affairs, “CSAF Gets Firsthand Look at RPA Operations.”

53. Chappelle, Salinas, and McDonald, *Psychological Health Screening*, 1.

54. The comments in the previous paragraph come entirely from an author interview with Col B. Rehm (former RPA squadron commander, currently 732 OG/CC), 31 January 2013.

55. Chappelle, Salinas, and McDonald, *Psychological Health Screening*, 3.

56. *Ibid.*, 4–10.

57. As an anecdote, Colonel Callahan mentions that “the worst days were when friendlies came under attack and RPA pilots were unable to do anything about it. On horrific days, maybe you could do something about it. Those are the tough days to go home.”

58. *FAA Modernization and Reform Act of 2012*, House Report 112-381, sec. 332 (a), 63.

59. For a complete discussion about the civilian employment opportunities in the UAS industry, see Hardison, Mattock, and Lytell, *Incentive Pay for Remotely Piloted Aircraft Career Fields*, chap. 4.

60. *Ibid.*; author’s e-mail discussions with Major Shultz; and briefs provided by Major Jacobson, RPA Capabilities Office (AF/A2CU), Pentagon.

61. Anonymous responses, Pilot Retention Survey.

62. Results tabulated from Pilot Retention Survey, sec. 3, question 22, sorted for RPA pilot answers.

63. *Ibid.*, question 23.

64. *Ibid.*, question 24.

65. *Ibid.*, question 25.

66. Callahan, “Force Development and Remotely Piloted Aircraft,” 4.

67. Results tabulated from Pilot Retention Survey, sec. 3, question 26, sorted for RPA pilot answers.

68. Chappelle, Salinas, and McDonald, *Psychological Health Screening*, 11.

69. Results tabulated from Pilot Retention Survey, sec. 4, question 32, sorted for RPA pilot answers.

70. *Ibid.*, question 30.

71. *Ibid.*, question 31.

72. *Ibid.*, question 34.

73. *Ibid.*, question 35.

74. *Ibid.*, question 36.

75. *Ibid.*, question 37.

76. *Ibid.*, questions 38–39.

77. The “proposed military decoration” alluded to is the Distinguished Warfare Medal, created to recognize the achievements of a small number of service men and women who have an especially direct and immediate impact on combat operations using remotely piloted aircraft and cyber operations. General reaction to the medal itself was mild; however, its placement within the order of merit among other military decorations was highly disputed. As such, Secretary of Defense Chuck Hagel, acting with concurrence from the Joint Chiefs of Staff and the other service secretaries, recommended having the medal downgraded to a device to quell the

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debate over precedence, which distracted from its original purpose. DOD, “Statement by Secretary of Defense Chuck Hagel.”

78. For more information about the RPA community survey, please contact Lt Col Brian Stahl at brian.t.stahl.mil@mail.mil.

Chapter 6

Synthesis and Statistical Results

The core of the CAF is Airmen.

—Air Combat Command (ACC) website

Key findings for the CAF fighter, bomber, and RPA communities are presented next via a statistical analysis of the collected data.¹ While the results are informative, the need for continued studies into the Air Force's pilot retention problem is clearly indicated.

Most surveyed pilots (84 percent) agree that the Air Force has a problem retaining the best officers from their respective groups. A one-way between-subjects analysis of variance (ANOVA) compared the mean scores on pilot retention by fighter, bomber, and RPA communities. The groups exhibit a statistically significant difference in their responses ($F(2, 89) = 5.198, p < .007$, partial eta squared = .105). Pairwise comparisons of the three groups show a statistically significant difference ($p < .006$) between fighter and bomber pilots. The raw data further illustrates that 65.1 percent of fighter pilots versus 18.8 percent of bomber pilots strongly agree that retention is a problem (see table 17 for the univariate test results). Despite this study's small sample sizes, this data attests to the severity of the problem among communities.

Table 17. Univariate test comparing mean scores on pilot retention for fighter, bomber, and RPA communities^a

	Sum of squares	df ^b	Mean square	F ^c	Significance	Partial eta squared
Contrast	4.479	2	2.240	5.198	.007	.105
Error	38.347	89	.431			

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: flying community experiencing pilot attrition.

^bDegrees of freedom.

^cThe F tests the effect of "what is your background?" This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

While fighter pilots differ statistically from bomber pilots, RPA pilots are not significantly different from either fighter ($p < .940$) or bomber pilots ($p < .36$). See table 18 for the statistical results from a pairwise analysis. About half (53.8 percent) of the RPA pilots strongly agree that their community is experiencing a retention problem. This outcome, compared to the above data, sug-

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gests that fighter pilots presently are more affected by poor retention or are more sensitized to the ramifications given the current environment than are RPA or bomber pilots. Based on the strength of answers, RPA pilots are close behind fighter pilots, with bomber pilots producing the least strong responses. The variables each of the communities identify as most influential for retention help to illuminate their similarities and differences.

Table 18. Pairwise comparison of pilot responses to community retention problems^a

(I) What is your background?	(J) What is your background?	Results			95% confidence interval for difference ^b	
		Mean difference (I-J)	Std. error	Sig. ^b	Lower bound	Upper bound
Fighter pilot	Bomber pilot	.587 ^c	.184	.006	.139	1.036
	RPA pilot	.203	.200	.940	-.285	.691
Bomber pilot	Fighter pilot	-.587 ^c	.184	.006	-1.036	-.139
	RPA pilot	-.385	.245	.360	-.983	.213
RPA pilot	Fighter pilot	-.203	.200	.940	-.691	.285
	Bomber pilot	.385	.245	.360	-.213	.983

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Based on estimated marginal means.

^aDependent variable: pilot responses pertaining to their community experiencing retention problems.

^bAdjustment for multiple comparisons: Bonferroni.

^cThe mean difference is significant at the .05 level.

Across the surveyed fighter, bomber, and RPA communities, operations tempo and family stability emerge as two keys for keeping the best pilots. Operations tempo ranks as the top variable with 93.5 percent (87 of 93) of respondents rating it very or quite important, followed by family stability with 90.3 percent (84 of 93) of these ratings. Table 19 summarizes how these communities correlate six factors to pilot retention.

Statistical analysis reveals that the sample data for variables in the models meet assumptions of normality, accomplished by using a multivariate analysis of variance (MANOVA) test with the influential variables listed at the top of table 19 as the dependent variables and the three groups of pilots as the independent variables. The multivariate test was not statistically significant (Roy's largest root = .117; $p < .156$). However, due to the small sample size, observed power was low (.585), so significant differences among pilot groups could potentially exist. Though attitudes on five of the variables were similar, the tests of between-subjects effects within the MANOVA resulted in a significant difference among pilots groups on the issue of compensation.

Table 19. Synthesis of influential variables among fighter, bomber, and RPA communities

Community	Air Force identity	Money & compensation	Promotion & recognition	Family & stability	Operations tempo	Other life goals
Fighter pilots	53.1%	45.3%	50%	90.6%	90.6%	61%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62
Bomber pilots	31.3%	75%	75%	87.5%	100%	56.3%
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16
RPA pilots	30.8%	61.6%	30.8%	92.3%	100%	66.6%
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12
Overall percentage	46.2%	52.6%	51.6%	90.3%	93.5%	59.1%
Total	43 of 93	49 of 93	48 of 93	84 of 93	87 of 93	55 of 93

Note: Variable percentages were calculated by the total number of respondents from the fighter, bomber, and RPA communities ranking each variable as either very or quite important to retention of the best pilots from their respective communities.

Another MANOVA identified whether monetary compensation influences the communities of interest differently. Using money/compensation and ACP as dependent variables and background as an independent variable, results indicate significant differences (Roy's largest root = .133; $p < .004$; observed power = .864). Tests of between-subjects effects indicate a statistically significant difference between groups in their views of money ($p < .037$) versus ACP in retaining the best officers ($p < .021$), as shown in table 20.

Pairwise comparisons reveal the differences between fighter and bomber pilot attitudes on these variables; money ($p < .044$) and ACP have more effect on the best officers from the bomber community ($p < .027$) (table 21). Seventy-five percent of bomber pilots regard money and compensation as very or quite important, compared to 44 percent of fighter pilots. Another 40 percent of fighter pilots rate money and compensation as only fairly important. There is indication, however, that bomber pilots are more likely to see programs like the ACP and ACIP as entitlements.

RPA pilots have an equally remarkable anomalous answer that requires further attention. All statistical results from the small pool of surveyed RPA pilots suggest that the RPA community does not view money, recognition, or promotion as significant retention variables. RPA pilots, however, are highly motivated by the variable categorized as "other life goals." The author conjectures that the opening of national airspace in 2015 to unmanned systems and corresponding job prospects created in the civilian sector leave RPA pilots looking forward to other opportunities.

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Table 20. Test of between-subjects effects by community and money/ACP

Source	Dependent variable	Type III sum of squares	df	Mean square	F	Sig.	Partial eta squared	Noncent. [*] parameter	Observed power [†]
Corrected model	Money/compensation	7.582 ^b	2	3.791	3.425	.037	.072	6.850	.629
	ACP retains best	8.046	2	4.023	4.063	.021	.085	8.125	.709
Intercept	Money/compensation	878.404	1	878.404	793.573	.000	.900	793.573	1.000
	ACP retains best	530.135	1	530.136	535.363	.000	.859	535.363	1.000
Q2	Money/compensation	7.582	2	3.791	3.425	.037	.072	6.850	.629
	ACP retains best	8.046	2	4.023	4.063	.021	.085	8.125	.709
Error	Money/compensation	97.407	88	1.107					
	ACP retains best	87.141	88	.990					
Total	Money/compensation	1353.000	91						
	ACP retains best	821.000	91						
Corrected total	Money/compensation	104.989	90						
	ACP retains best	95.187	90						

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

*Noncentralized parameter

^aR squared = .072 (adjusted R squared = .051)

^bComputed using alpha = .05

^cR squared = .085 (adjusted R squared = .054)

Data also suggests that RPA pilots want to keep their options open by not taking the ACP. Whether it is dissatisfaction with the job or the prospect of future opportunities is not clear. What is evident, however, is the need to quickly identify the influential variables for this community to avoid losing the initial pool of experienced pilots in the near future, a topic addressed in the next chapter.

Anecdotal evidence suggests that the six variables identified above would account for the main influences affecting a pilot's decision to stay on AD; however, this study does not support those assumptions overtly. To determine the degree to which these variables motivate pilots to remain on active duty, the author used a multiple regression with the statement "the rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community" as the dependent variable.

Table 21. Pairwise comparison by community and money/ACP

Dependent variable	(I) What is your background?	(J) What is your background?	Results			95% confidence interval for difference ^a	
			Mean difference (I-J)	Std. error	Sig. ^a	Lower bound	Upper bound
Money/ compensation	Fighter pilot	Bomber pilot	-.734 ^b	.295	.044	-1.454	-.014
		RPA pilot	-.407	.321	.624	-1.190	.376
	Bomber pilot	Fighter pilot	.734 ^b	.295	.044	.014	1.454
		RPA pilot	.327	.393	1.000	-.632	1.286
	RPA pilot	Fighter pilot	.407	.321	.624	-.376	1.190
		Bomber pilot	-.327	.393	1.000	-1.286	.632
ACP retains best	Fighter pilot	Bomber pilot	-.746 ^b	.279	.027	-1.427	-.065
		RPA pilot	-.448	.304	.431	-1.189	.293
	Bomber pilot	Fighter pilot	-.746 ^b	.279	.027	.065	1.427
		RPA pilot	.298	.372	1.000	-.609	1.205
	RPA pilot	Fighter pilot	.448	.304	.431	-.293	1.189
		Bomber pilot	-.298	.372	1.000	-1.205	.609

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Based on estimated marginal means.

^aAdjustment for multiple comparisons: Bonferroni.

^bThe mean difference is significant at the .05 level.

The following three statements presented to survey respondents were the independent variables for the same statistical analysis. First, “many of the best rated officers would stay if there were more focus on tactical competency as opposed to career progression.” Second, “many of the best rated officers would leave regardless because of better opportunities/compensation in the civilian sector.” Third, “the opportunity to fly the newest and most advanced weapons systems is enough for me to stay on Active Duty beyond my initial Undergraduate Pilot Training Active Duty Service Commitment.” Multiple *R* for regression was statistically significant, $F(3, 88) = 7.785$ ($p < .001$), and accounts for 21 percent ($R^2 = .210$) of the explanation for the best officers leaving active duty (see tables 22 and 23).

Table 22. Test of between-subjects effects on the best rated officers leaving active duty^a

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics				Sig. F change	Durbin-Watson
					R square change	F change	df1	df2		
1	.458 ^b	.210	.183	.82063	.210	7.785	3	88	.000	1.976

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: rated leaving are the best pilots.

^bPredictors: (constant), flying new aircraft enough incentive to stay, leave for better opportunities in civilian sector, stay if more focus on tactical competence.

Table 23. Correlation of best leaving active duty^a

Model	Unstandardized coefficients		Standardized coefficients			Correlations			
	B	Std. error		t	Sig.	Zero-order	Partial	Semipartial	
1 (Constant)	3.427	.547			.000				
				6.261					
Stay if more focus on tactical competence	.329	.099	.320	3.318	.001	.348	.333	.314	
Leave for better opportunities in civilian sector	-.146	.077	-.183	-1.901	.061	-.237	-.199	-.180	
Flying new aircraft enough incentive to stay	-.178	.071	-.239	-2.521	.014	-.231	-.260	-.239	

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: rated leaving are the best pilots.

Moreover, the data suggests that study participants believe the loss of these rated officers reflects senior leader understanding of the retention problem. A multiple regression was performed using “current Air Force senior leadership has a good understanding of the quantity and quality of rated officers leaving

after their initial active duty service commitment” as the dependent variable. Two statements served as the independent variables for the same statistical analysis. The first is “the rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community.” The second is “the general officer [GO] ranks will be less capable because the best officers elect to leave active duty early in their career.” Multiple R was statistically significant, $F(2, 89) = 14.004$ ($p < .001$), and accounts for 24 percent ($R^2 = .239$) of their opinion of the degree to which senior leaders understand the problem (table 24).

Table 24. Senior leader understanding of retention problem^a

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics					Durbin-Watson
					R square change	F change	df1	df2	Sig. F change	
1	.489 ^b	.239	.222	.86824	.239	14.004	2	89	.000	1.934

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: senior Air Force leaders have a good understanding of problem.

^bPredictors: (constant), GO ranks will be weaker from attrition; best officers for leadership are leaving.

Both independent variables made a statistically significant contribution to the model. The first statement, “the rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community” ($\beta = -.272$, $p < .028$, and $r = -.444$), demonstrates that the number of rated officers electing to leave decreases .272 units for every unit increase in senior leader understanding. The second statement, “the general officer ranks will be less capable because the best officers elect to leave active duty early in their career” ($\beta = -.267$, $p < .031$, and $r = -.446$), shows that for every unit increase in understanding, the perceived capability of GO ranks decreases .267 units. The zero-order correlation was negative in both cases, demonstrating these inverse relationships. Clearly, pilots believe increased senior leader understanding of the retention problem will strongly impact the future quality of Air Force leadership (table 25).

Table 25. Increased understanding of retention and its impact on future Air Force leadership^a

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Correlations		
	B	Std. error	Beta			Zero-order	Partial	Semi-partial
1 (Constant)	4.167	.374		11.153	.000			
Best officers for leadership are leaving	-.283	.127	.272	-2.230	.028	-.446	-.230	-.206
GO ranks will be weaker from attrition	-.235	.107	-.267	-2.187	.031	-.444	-.226	-.202

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: senior Air Force leaders have a good understanding of problem.

Surveyed pilots differ significantly as to when the best decide to leave AD. A one-way between-subjects ANOVA compared the mean scores on “the best pilots make the decision to leave before their ADSC is up” question by fighter, bomber, and RPA communities. A statistically significant difference emerged between how the groups responded to this question ($F(2, 89) = 4.699$, $p < .011$, partial eta squared = .096). Compared to fighter pilots, RPA pilots perceive that the decision to leave AD occurs well before the completion of an ADSC ($p < .037$). See table 26 for the univariate test results.

Table 26. Univariate test comparing influential variables over time^a

	Sum of squares	df	Mean square	F	Significance	Partial eta squared
Contrast	10.153	2	5.076	4.699 ^b	.011	.096
Error	96.152	89	1.080			

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

^aDependent variable: best pilots decide to leave before ADSC is done.

^bThe F tests the effect of “what is your background?” and is based on the linearly independent pairwise comparisons among the estimated marginal means.

The pairwise comparison among these three groups failed to reveal any other significant comparisons (table 27).

Setting aside the issue of why and when pilots leave active duty, the study explored pilot attitudes and predictions of the impact of the retention problem on the Air Force and its mission. Statistical analysis reveals that pilots from all three communities believe continued poor retention of the best officers will lead to serious negative implications for the Air Force. Multiple regression analysis performed using the forced entry method with “US security

is weaker” as the dependent variable bolsters this finding. Three statements served as the independent variables for the same analysis. First, “the rated officers that are currently electing to leave the Air Force before retirement age are among the best officers in my community.” Second, “the general officer ranks will be less capable because the best officers elect to leave active duty early in their career.” Third, “the best rated officers I expected to see leading the Air Force as commanders (at the squadron commander level and above) are leaving active duty well before they reach that milestone.” These variables were a good model for the data as multiple R was statistically significant ($F(3, 88) = 37.309, p < .001$).

Table 27. Pairwise comparison of responses pertaining to when the best pilots decide to leave compared to ADSC completion^a

(I) What is your background?	(J) What is your background?	Results			95% confidence interval for difference ^b	
		Mean difference (I-J)	Std. error	Sig. ^b	Lower bound	Upper bound
Fighter pilot	Bomber pilot	-.622	.291	.106	-1.332	.088
	RPA pilot	-.810 ^c	.317	.037	-1.582	-.037
Bomber pilot	Fighter pilot	.622	.291	.106	-.088	1.332
	RPA pilot	-.188	.388	1.000	-1.135	.760
RPA pilot	Fighter pilot	.810 ^c	.317	.037	.037	1.582
	Bomber pilot	.188	.388	1.000	-.760	1.135

Developed from Pilot Retention Survey data with the assistance of Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama.

Based on estimated marginal means.

^aDependent variable: best pilots decide to leave before ADSC done.

^bAdjustment for multiple comparisons: Bonferroni.

^cThe mean difference is significant at the .05 level.

The linear combination of these variables accounts for more than half of the explanation ($R^2 = .560$) for the pilot’s predictions of the effect of leadership quality on US security. Two of the three variables contributed significantly to the prediction that “US security is weaker” because the best officers are leaving AD. These are “the rated officers that are currently electing to leave the Air Force before retirement age are among the ‘best’ officers in my community” ($\beta = .369, p < .001$), and “the general officer ranks will be less capable because the best officers elect to leave active duty early in their career” ($\beta = .352, p < .001$). Therefore, as the loss of the best officers from active duty results in a less capable GO cadre, respondents foresee that US security will weaken.

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Questions about combat readiness were less effective in producing quantifiable results. None of the highlighted variables contributed significantly toward predicting combat readiness. As a result, this line of questioning requires modification for future studies. While combat readiness questions provided no useable statistical data, the raw data presented in this paper nevertheless highlights the general thinking of pilots within each respective community.

Another wrinkle uncovered by this study is finding that the most compelling reasons to cause a pilot to leave active duty turns out to be a moving target. A one-way between-subjects ANOVA compared the mean scores on the question “have the variables affecting your decision to stay on or leave AD changed since you completed pilot training” by fighter, bomber, and RPA communities. Responses by group did not differ significantly ($F(2, 89) = .144$, $p < .866$, partial eta squared = .003), indicating all pilots feel similarly. At the same time, 79.4 percent of fighter pilots, 81.3 percent of bomber pilots, and 84.6 percent of RPA pilots agree that their reasons to remain on active duty have changed over time.

This discovery highlights three fundamental necessities for future studies. First, include a representative sample of each pilot population to generate adequate power to find effects when they truly exist. Second, incorporate a wider range of variables than those presented in this study to find the unexplained reasons for poor retention. Third, add a temporal component by drawing on data spaced at regular intervals as opposed to a single study. This strategy will help to capture when, and in what way, the reasons for leaving change for each pilot group. The final chapter focuses on conclusions drawn from all three case studies, recommendations to improve retention, and implications if retention measures don't improve.²

Notes

1. Statistical tabulations in this chapter are the result of diligent efforts by Ms. Sophie E. A. Ryan, chief, Institutional Effectiveness, Air University, Maxwell AFB, Alabama. The data used comes directly from the Pilot Retention Survey administered to AU students from the SOC, ACSC, SAASS, and AWC.

2. For more information about survey results or for a copy of survey answers, please contact Lt Col Brian Stahl at brian.t.stahl.mil@mail.mil.

Chapter 7

Conclusions and Recommendations

Military people stay in service because they like being part of something special. They won't stay long, however, if families aren't treated well.

—Gen John M. Shalikashvili
Beyond the Wild Blue

Summary

This study shows that the Air Force has a retention problem in the CAF, as substantiated by ACP take rate and historical retention rate examination, survey data analysis, anecdotal conversations, and personal interviews. Further, monetary payouts like the ACP and ACIP are not effective in their current forms for keeping the best personnel from the respective pilot communities. It is the author's belief that recovery from the negative retention trend is possible, but it necessitates a concerted effort on the part of the USAF and CAF to ascertain the most influential retention variables. Their identification cannot occur at the Air Force level because contextual differences in their definitions vary by community, individual weapons systems, and possibly even locale. Thus, the USAF must pursue a more focused means of variable identification before it can truly make a substantial change in retaining the best within its ranks.

The motivation for this research study was threefold. The underlying current of frustration felt by pilots as captured in the “Dear Boss” letters served as the initial impetus to the project. Burgeoning subjective opinions resulting from personal observation of the best departing active duty for other opportunities—primarily from a single weapons system—served as the second. The third motivation extended from a meeting between a group of Air Force Fellows and the USAFE commander, General Welsh, before his nomination as CSAF. He expressed concern about poor retention rates throughout not only the fighter community but also the Air Force at large. These catalyzing moments spurred this study and generated three specific questions about the Air Force's current and projected retention environment.

Like the other services within the DOD, the Air Force is trying to figure out how to do more with less in times of fiscal austerity. The precarious retention environment that has resulted leaves the decisional balance of many CAF pilots resting on a razor's edge between leaving AD for other opportunities and

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remaining on AD despite current challenges. This atmosphere fueled the development of the three primary research questions: (1) Is there a retention problem in the CAF? (2) What are the risks associated with poor retention in the CAF? and (3) Is there anything the Air Force can do to solve the problem? Answers to these questions would either substantiate or refute the research hypothesis. To qualify this hypothesis and answer these questions, a multi-disciplined approach drew from several resources to increase research saliency.

The search for answers to the study questions occurred through three primary methods. The first entailed detailed analysis of the rated officer retention analysis reports from FY 2000 through FY 2012 to identify retention rates by individual MWS and community and the Air Force writ large. The second leveraged a convenience sample survey, administered 11–28 February 2013 (see table 28 for the total survey solicitations and responses for the Pilot Retention Survey). The third method relied on interviews and anecdotal conversations with currently sitting or recently graduated operational squadron commanders from the three communities of interest. Each interview provided invaluable insight into the interworking of an operational squadron from the viewpoint of a frontline supervisor tasked to implement, enforce, and work between the policies and procedures put in place by the larger Air Force.

Table 28. Total survey solicitations/responses by MWS and PME school

PME school	Fighter	Bomber	RPA	Total solicited	Number of respondents	Percentage of school responses	Percentage of total respondents
SOS	24	10	19	53	37	70%	40%
ACSC	30	6	2	38	32	84%	35%
SAASS	7	6	1	14	12	86%	13%
AWC	10	2	1	13	11	85%	12%
Total solicited	71	24	23	118			100%
Respondents	64	16	13		92		
Percentage of community responses ^a	90%	67%	57%			Final numbers: 118 solicited 92 respondents 78% response rate	
Percentage of total respondents	69%	17%	14%	100%			

Developed from the results of the Pilot Retention Survey given to SOC, ACSC, SAASS, and AWC students 11–28 February 2013.

^aPercentages for the total community of study come from the number of respondents who completed the survey.

The following conclusions begin with those pertinent for all USAF rated communities and devolve into discussions about the CAF and, finally, the individual communities of interest. Recommendations as well as implications are provided where applicable.

Air Force

Identification of Key Variables

Air Force Conclusion 1. The USAF does not utilize an overarching means of tracking pilots in rated communities during their first 10 to 12 years. Surveys in place are either underdeveloped or underutilized as a means of identifying contextual differences among communities of interest down to the MWS and basing location level.

Air Force Recommendation 1.1. The USAF—particularly AFPC and Headquarters Air Force Manpower, Personnel, and Services (HQ USAF/A1)—should emphasize the survey of representative samples of all rated career fields, or at least those experiencing the lowest retention rates, at key points throughout their career.

For example, biennial surveys administered to statistically representative pools of rated officers upon completion of their initial aeronautical training would contribute to the development of trends pertaining to the most influential variables for retention over time. With enough trend data, senior leaders could sort by time, rank, aeronautical rating, community, and MWS. As a starting point, the author proposes expanding the influential variables used in this study (table 29) to incorporate more variables of increased granularity, thereby facilitating a clearer picture of relative retention throughout the Air Force. The scope of future studies should also broaden to incorporate career fields outside the CAF, thereby validating the process for a wider population.

Air Force Recommendation 1.2. Expansion of future studies would allow the USAF to provide more focused retention methods against specific variables at key points in a rated officer's career. Identification of key variables early in a career would enable leaders to implement solutions at a problem's inception rather than waiting to provide a monetary payout at the end of an ADSC in an attempt to solve it. As this study illustrates, multiple reasons lead pilots to separate from the Air Force, and the default "fix" of incentive pay does not address all of them.

Air Force Recommendation 1.3. Maj Dale Stanley and the Air Force Expeditionary Center developed a predictive model for USAF retention that takes into account dependent variables outside the service. His regression

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modeling uses cumulative continuation rate as the independent variable and assigns multiple dependent variables internal and external to the Air Force. These dependent variables include airline hiring rates, ACP take rates, marriage rates, force shaping, average airline salary, lieutenant colonel promotion rate, and national unemployment. While this list of independent variables is extensive, incorporating other variables as needed is feasible.¹

Table 29. Synthesis of influential variables among fighter, bomber, and RPA communities

Community	Air Force identity	Money & compensation	Promotion & recognition	Family & stability	Operations tempo	Other life goals
Fighter pilots	53.1%	45.3%	50%	90.6%	90.6%	61%
Count	34 of 64	29 of 64	32 of 64	58 of 64	58 of 64	38 of 62
Bomber pilots	31.3%	75%	75%	87.5%	100%	56.3%
Count	5 of 16	12 of 16	12 of 16	14 of 16	16 of 16	9 of 16
RPA pilots	30.8%	61.6%	30.8%	92.3%	100%	66.6%
Count	4 of 13	8 of 13	4 of 13	12 of 13	13 of 13	8 of 12
Overall percentage	46.2%	52.6%	51.6%	90.3%	93.5%	59.1%
Total	43 of 93	49 of 93	48 of 93	84 of 93	87 of 93	55 of 93

Note: Variable percentages were calculated by the total number of respondents from the fighter, bomber, and RPA communities ranking each variable as either very important or quite important to retention of the best pilots from their respective communities.

Air Force Implication 1. The purpose of identifying Major Stanley’s research is not to imply that he, or his agency, has identified the smoking gun for retention of rated CAF aircrew. Rather, it is to suggest that innovative means of providing proactive data collection for variable identification are in development. Further, these pioneering solutions warrant support from senior leaders to ensure retention of the best human capital for the USAF’s strategic future. Part of the data collection for the proposed proactive prediction models should come from exit surveys of rated aircrew who elect to leave AD before reaching retirement eligibility.

Air Force Conclusion 2. Surveyed communities believe variables influencing retention vary by community and temporally change over the years. Therefore, it is imprudent for the Air Force to believe that a single monetary compensation at the end of an initial ADSC will make up for undervalued or unaddressed variables that occur earlier in a career or are specific to one particular community.

Air Force Implication 2. Identification of these influential variables, along with contextual differences that manifest temporally and communally, is essential to retaining more of the best rated officers in the Air Force. If reliance on ACP at the termination of an ADSC continues to propagate into the future, the Air Force will not be able to remove itself from reactive retention methods that do not address the underlying problems.

Exit Surveys

Air Force Conclusion 3. The Air Force does not require all rated officers to accomplish exit surveys as they are leaving AD. While exit surveys do exist, they are either underdeveloped or underutilized with respect to critically manned or high-investment career fields (like pilots). Just as the identification of key variables influencing retention throughout a career is important, so too are the variables at the time of separation, whenever that separation, or even retirement, occurs. Senior leaders would consequently have information about retention variables in the formative years after completion of initial training as well as at the decision point of separation. They could identify career points where the Air Force could improve retention methods and also where it could not have done anything different.

Air Force Recommendation 3. Thus, the Air Force, and specifically HQ USAF/A1, should conduct exit surveys of all rated officers (one could argue for all critical and high-investment career fields) who separate from AD. The data would supplement the biennial surveys recommended above and prove to be invaluable to predictive modeling for future retention.

Air Force Implication 3. If exit surveys are not administered, the Air Force will continue to guess as to the reasons for rated officer separation, as opposed to having truth data—used in conjunction with periodic assessments—to paint the whole picture of officer retention variables.²

Bonus Payments

Air Force Conclusion 4. Research for this study reveals that money is not a significant driver for all surveyed communities. Although the bomber community ranks monetary compensation significantly higher than do the fighter and RPA communities, none of the communities ranks it as *the* most influential variable. However, outright elimination of bonus payouts would likely have a substantial negative effect on rated officer retention.

Air Force Recommendation 4.1. Therefore, a restructuring of the bonus program must occur for two reasons. First, bonus payouts do not incorporate higher qualifications as part of the calculus, which fails to incentivize those

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who have obtained increased skill sets. Second, application of bonus payments cannot occur equally across all rated pilot communities because they don't experience problems with retention at the same time.

Air Force Recommendation 4.2. Under the current bonus constructs, both the ACP and the ACIP bonus payments are awarded based primarily on time. The ACP targets select communities at the completion of an ADSC, and years of aviation service determine the ACIP amount paid to rated officers. In each instance, the bonus payout is independent of the level of attained qualification. Both the ACP and ACIP should incorporate level of qualification into the calculus of payout.³

Air Force Recommendation 4.3. Payout of the ACP should not occur equally based solely on aeronautical rating. To improve on the current model, the ACP should focus on aeronautical rating, community, and weapons system to achieve the most cost-effective use of bonus monies, applied against those weapons systems suffering the poorest retention.⁴ Monetary payout is not the variable identified as most influential on retention. The author postulates that it has little influence in its current form due to a lack of understanding of the actual influential variables on retention. The ACP has become an ineffectually applied payout against an insufficiently studied problem.

Air Force Implication 4. A more focused approach of proactively identifying the most affected communities, as well as the correct dollar amounts for retention of personnel from those communities, would lead to higher retention rates and more efficient use of scarce dollars overall. The Air Force would require direct interaction with Congress to request a change for the ACIP and ACP. If the Air Force elects not to change these bonus programs, it will continue to suffer a drive toward mediocrity as the best depart for more lucrative offers outside AD, taking their unique skill sets with them.

Professional Military Education, Training, and Promotion

Air Force Conclusion 5. Pilots are currently operationally deferred from attending PME in residence or accomplishing staff jobs due to an operational need to man cockpits. With personnel shortfalls necessitating an increased focus on mission readiness, the Air Force should modify the importance of these requisites with respect to promotion and career advancement. Understandably, accomplishment of the mission is paramount to the success of the United States Air Force.

Air Force Recommendation 5.1. Just as critical to the Air Force's success, however, is the retention of an educated officer corps. Bearing this in mind, one of two courses of action should transpire. Either the Air Force invests

more in PME and advanced training during times of fiscal austerity—thereby advancing the future of the remaining corps of officers—or it must decrease the level of importance placed on PME and higher education for promotion and advancement. The Air Force cannot have both, and if the best officers from the rated communities feel as though career progression slows or halts by events outside of their control, they will leave AD for other ventures.

Air Force Recommendation 5.2. As opposed to propagating an “up or out” promotion system, the Air Force would be better served by allowing a portion of officers to plateau in rank, thereby decreasing the perception that requisite accomplishment is a necessity to stay on AD.⁵ The plateau would provide tactical and operational continuity for the CAF, reduce costs associated with PME and staff job TDYs and PCSs, and drive down long-term costs with some officers retiring at a lower rank.

Air Force Recommendation 5.3. Air Education and Training Command (AETC) and Air University should eliminate duplicative accomplishments of PME schools by correspondence followed by in-residence attendance.⁶ This redundant process echoes for SOC, ACSC, and AWC, which in all cases takes away valuable time from the Airmen, mission, and family.⁷ Notice this argument does not discount the importance of PME; rather, it seeks to optimize PME’s contribution to the development of officers while decreasing the negative influence reaped from its repetitive accomplishment.

Air Force Implication 5. Failure to change PME requirements will leave Airmen having to choose between career progression requisites and family time. As this study proves, operations tempo and family stability are key drivers for retention, both of which revolve around time available to an Airman.

Combat Air Forces

Geographic Proximity versus Global Reach

CAF Conclusion 1. Senior political and military leaders need to reevaluate the reasons why combat assets deploy and whether benefits gained in the current joint and international environment by a CAF squadron’s presence are worth the strains levied on its smaller force structure.⁸ Fewer available squadrons to accept the same number of taskings combined with increased deployed-to-dwell rates increase the strain on aircraft and personnel.

CAF Recommendation 1. It is time for the Air Force, and the nation writ large, to accept an increased level of risk in deployed locations by reducing the requirements for a deployed CAF footprint. To regain control of operations

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tempo, tactical capability, and retention of the best, acceptance of greater risk is required in the operational environment.

CAF Implication 1.1. The short-term risk will equate to a long-term gain as squadrons can use saved time and money to organize, train, and equip at home for the moment when actual CAF presence is required.⁹ If the Air Force does not recapitalize its human capital, the nation will lose a critical piece of the national security umbrella.

CAF Implication 1.2. Increased emphasis on rapid mobilization and deployment in response to specific threats, as opposed to planned deployment as deterrence, will mitigate this problem.¹⁰ This idea is not retrenchment. It speaks instead to an “airpower-in-being” that uses the defensive and deterrent nature of the Air Force’s fielded strategic assets in conjunction with the inherently rapid and offensive nature of tactical, space, and cyber assets to gain command of the air, space, and cyber domain.¹¹ Equally important to the operations tempo discussion is the utilization of individual officers.

Low-Density, High-Demand Human Capital

CAF Conclusion 2. The Air Force must reevaluate how it utilizes rated officers with unique skill sets. Many of the best officers (represented by but certainly not limited to WIC graduates) are departing AD because of extended, unaccompanied assignments that do not explicitly require their talents. These men and women are in short supply, and their use must be the exception and not the rule.¹² Development and retention of a strong core of talented CAF officers are investments in the Air Force’s strategic future, and as such, the departure rate of these highly skilled officers demands attention.

CAF Recommendation 2. The Air Force, ACC, and Global Strike Command need to reassess billets currently requiring highly skilled rated officers (i.e., WIC graduates). Loss of these officers from the primary skill set for a year has a longer-lasting effect on a community than just lost calendar time.

CAF Implication 2. Instrumental to the refocusing process is the retention of a core cadre of airpower experts—the best from all of the Air Force core functions—to ensure that short-term force structure reductions do not also undercut long-term force capability. Retention of this core of the best begins at the lowest levels and requires implicit identification of not only contextual differences among communities but also the resulting dissimilar definitions they use to define influential retention variables.

All three communities of interest included in this research study identify operations tempo and family stability as the most influential variables on retention for their respective communities. The way each community defines

operations tempo and its subsequent effect on family stability is different, however. A perspective of contextual similarities and differences that permeate each of these communities allows a more focused approach toward retention. The findings from these comparisons summarized next reinforce the need to identify the most influential variables at the lowest level.

Fighter Community

Operations Tempo

Fighter Conclusion 1. Fighter pilots identify operations tempo as a key driver for retention and associate its prominence primarily to fighter squadron manning. As smaller force structures become a reality, the hours required per fighter pilot will continue to increase.

Fighter Recommendation 1. As mentioned, senior leaders across the CAF must reduce operations tempo, which begins with manning for the fighter community. Further exacerbating the problem is the difficult position AD and Guard pilots face when trying to combine into an effective Total Force Initiative.

Fighter Conclusion 2. The TFI is a critical piece of USAF force structure, but current implementation of the construct has left all parties struggling to achieve the desired ends with the means provided by the nation.¹³

Fighter Recommendation 2. To ensure success for all participants in the TFI construct, senior leaders from the active duty Air Force, Guard, and Reserve must reexamine the collective contributions of each and the manning requirements that exist as a result.

Fighter Implication 2. Increased fighter pilot manning would go a long way in solving the retention problem currently experienced within the fighter community. However, decreased flying hours and training opportunities created by fiscal constraints keep the capacity to train fighter pilots below current requirements. As a result, short-term retention will most likely continue to drop unless the combat air forces take secondary measures to address operations tempo, which will require increased risk.

Fighter Conclusion 3. As discussed earlier, a force posture that relies more on rapid response from in-garrison positions as opposed to a security provided by geographic proximity to the combatant commander would facilitate a decreased operations tempo for the fighter community.

Fighter Recommendation 3.1. Therefore, the recommendation for changing the CAF deployment schedule of fighter and bomber assets (see CAF conclusion 1) rings especially true for the fighter community. ACC and the num-

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bered air forces that provide CONUS-based fighter assets for global use must reevaluate when, where, and why these assets deploy in support of regional objectives. The balance between geographic presence and tactical capability is paramount to this discussion. When long-term combat capability is lost to pay for short-term regional presence, the imbalance may be more than the Air Force can afford given the current force structure decreases as well as the poor fiscal environment.

Fighter Recommendation 3.2. The Air Force—particularly AETC and ACC—must explore creative means to balance tactical training and professional education capacity in the long term. Primarily, however, these agencies must focus in the short term on the retention of a core cadre of the best fighter pilots to ensure talent exists to train the next generation when capacity matches requirement. To paraphrase Richard P. Rumelt, quality matters when quantity, or capacity to train, is an inadequate substitute.¹⁴

Fighter Implication 3. Otherwise, future Air Force generations will inherit a hollow force of human capital, incapable of rapidly reconstituting once fiscal constraints and manning shortages pass or, more importantly, should the nation require additional forces to face an emergency. This is not to say that recovering from this shortage will be impossible but rather to suggest that the amount of time required to recover may incur an unacceptable strategic risk for the nation.

Family and Stability

Fighter Conclusion 4. For the AD fighter community in particular, investment in human capital for the long-term strategic future of the CAF is imperative. Continued talks of force reduction, decreases in CAF fighter squadrons, grounding of others, and delays in the delivery of new weapons systems have left individual pilots within the fighter community uncomfortable about their career prospects.

Fighter Recommendation 4. Finding ways to decrease the burden of operations tempo would simultaneously increase stability for the family. The Air Force and ACC thus need to find ways to remove emphatic focus from the artifacts that have historically defined Air Force identity and instead re-emphasize their most important asset—the Airman. The author understands that modernization and recapitalization of weapons systems are paramount to the long-term strategic advantage of the USAF. However, as Rumelt also observes, “it is of little use to supply advanced machinery to unskilled or undertrained workers just as it is useless to educate people for jobs that do not exist.”¹⁵ Recapitalization of the most important weapons system—the human

operator exquisitely represented by the Airman in the Air Force—therefore is paramount.

Fighter Implication 4. The repercussions of not addressing operations tempo and family stability within the fighter community will have long-term effects as the best fighter pilots continue to leave the Air Force in search of what they cannot find on AD—personal and professional stability.

Fighter Conclusion 5. Fighter pilots and their families generally move more frequently than their peers from the bomber or RPA communities. This transient lifestyle exacts increased stress on these Airmen, as well as the families who support them, and has a negative contributory effect on retention.

Fighter Recommendation 5. Plausibly, increasing the average move timing from approximately every three years to four or even five years would positively affect retention. Given the Air Force's current understanding of the level of influence exacted by different influential variables, making an accurate assessment is impossible. HQ USAF/A1 and the AFPC should research the benefits of long assignment durations to increase stability and, ultimately, retention.

Fighter Implication 5. Simply increasing the move timing may not be enough to change the rate of retention, but until the Air Force researches the interrelationship of influential variables by individual communities, completely ascertaining this interrelationship will be difficult. Again, this leads back to the fundamental assertion that the Air Force must understand the most influential variables by community before it can make any focused changes on retention for the fighter community. The basic argument carries over to the bomber community but for contextually different reasons.

Bomber Community

Operations Tempo

Bomber Conclusion 1. Similar to the fighter community, bomber pilots believe that operations tempo is the most influential variable for retention of the best pilots from their community. Contextually, however, their definition of operations tempo varies from that of the fighter community, obliging the Air Force to address the problem differently if the solution is to be effective. Whereas operations tempo contextually revolves around manning shortfalls for fighter pilots, bomber pilots see deployments as its key contributor.¹⁶

Bomber Recommendation 1. Fewer bomber squadrons necessitate increased deployment rates for longer duration. The integral piece requiring attention for the bomber pilot therefore falls directly in line with the previous

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CAF recommendation pertaining to geographic proximity and global reach. GSC and ACC must leverage their capabilities for global reach and for holding any target at risk in short order from CONUS basing in lieu of extensive deployments. This recommendation serves the same purpose as for the fighter community, with the added benefit of decreasing the negative influence of operations tempo—identified by the bomber community as the primary driver for poor retention.

Family and Stability

Bomber Conclusion 2. Just as operations tempo contributes directly to family stability for the fighter community, it does the same for the bomber community. Similar to the operations tempo discussion, contextual differences mandate different solutions for bomber pilots as compared to fighter pilots.

Bomber Recommendation 2. Instability because of continued drawdown of forces and rising personnel costs does not change from the fighter to the bomber community. For the sake of this discussion, it shares the same fundamental arguments and recommendations presented in fighter conclusion, recommendation, and implication 4. The only difference is that GSC must contribute to the conversation along with ACC.

Bomber Conclusion 3. While not part of this research, the poor retention of combat system operators may affect bomber pilot retention. While the response may be only empathetic, the dichotomy of monetary payout between pilots and CSOs may induce imbalance among families in the same unit.

Bomber Recommendation 3. The Air Force, together with ACC and GSC, must study the interaction between pilots and CSOs. The author suspects that while the “have” and “have-not” debate may appear superficial, until proven otherwise, the argument for a symptomatic effect between the two is plausible. The impetus for this conjecture is the statistically higher rate at which bomber pilots rate money and compensation as influential retention variables.

Money and Promotion

Bomber Conclusion 4. Bomber pilots rate money and compensation as significantly more influential variables than do fighter pilots but not significantly different from RPA pilots.

Bomber Recommendation 4. As such, the Air Force must identify the root cause behind this dichotomy to clarify if the difference originates internal to the bomber community or is because of external influence from the Air Force writ large. In either case, establishing key variables is the first step,

which necessitates additional attention with respect to money and its influence on the retention of bomber pilots. As noted earlier, a discussion of CSO retention must occur simultaneously to determine any interrelationship between the retention of one on the other.

RPA Community

Operations Tempo

RPA Conclusion 1. RPA pilots, similar to pilots from the other studied communities, identify operations tempo as the most significant variable on retention. As for the other communities, the contextual difference in the definition of operations tempo mandates a solution distinct from those proposed for the other groups. Fighter pilots primarily equate operations tempo to manning; bomber pilots, to deployments; and RPA pilots, to the monotony of shift work and the insatiable appetite of senior leaders for the provided information at lower relative risk. This appetite led to an increased number of requested combat air patrols to barely tenable levels.

RPA Recommendation 1. The Air Force and ACC must separate the necessary from the desired CAPs. Reduction in the number of CAPs would allow RPA pilots to enter periods of “steady state” operations, thereby gaining a reconstitution period similar to that experienced by fighter and bomber pilots after a deployment.

RPA Implication 1. Without the opportunity to enter steady state operations, the Air Force could see more RPA pilots depart AD as the grind becomes too much and family life is more affected. Much like the fighter and bomber communities, failure to reduce the contextually unique operations tempo of the RPA community will lead to family instability and result in higher separation rates.

Family and Stability

RPA Conclusion 2. Distinct to the RPA community is the lack of buffer between sustained combat operations and family life. Whereas fighter and bomber pilots must deploy to accomplish their wartime missions, thereby building a geographic barrier, RPA pilots accomplish their mission in garrison and return home shortly thereafter. As such, the separation from combat operations to normal life is minimal. While not directly revealed in the data, the consequence of continued operations in this manner could be dire.

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RPA Recommendation 2. The distinct characteristics of RPA operations require further study by ACC. This need is bolstered by requests emanating from the RPA community and substantiated through the medical community. Specifically, the author postulates that additional studies into the effects of sustained in-garrison combat operations on pilots and, by extension, their families would contribute to an increased understanding of the most influential variables on retention for the RPA community.

RPA Implication 2. This issue may be an indicator of a variable requiring further attention by ACC and the Air Force to ensure that the mental, physical, and spiritual well-being of RPA Airmen and their families do not become subsumed by operational requirements. If this does not occur, the health of those who remain in the RPA community may suffer or they may depart AD all together for other life goals.

Other Life Goals

RPA Conclusion 3. Burgeoning opportunities in the civilian sector for RPA operators created by the FAA Modernization and Reform Act of 2012 could signal a mass exodus of the best RPA drivers, similar to that projected for manned Air Force systems caused by the increase in commercial aviation hiring. Opening of the national airspace to unmanned systems in 2015 could provide more lucrative and less stressful opportunities in the civilian sector than currently found in the military structure.

RPA Recommendation 3. The Air Force should be mindful of the imminent alternative hiring venues for RPA pilots and use the intervening time to identify, test, and validate leading retention factors. This particular community would make an ideal test case for the Air Force since it is on the precipice of experiencing unique external influences with the potential to create RPA pilot shortfalls.

RPA Implication 3. If validated, the method described above would empower senior leaders to make broader changes to other communities, including fighter and bomber. More importantly, this process changes the retention emphasis from a callous monetary payout awarded at the expiration of time served in a position to a more human-focused practice. This proposal considers contextual differences among communities and emphasizes the need to retain more of the best rated officers, who exude unique qualities and capabilities integral to the strategic future of the Air Force.

Notes

1. Stanley, briefing, subject: Predicting Pilot Retention.

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2. This does not infer that the Air Force will be able to retain all of the best officers from the heaviest hit communities in retention. Every officer who leaves the Air Force does so for personal and professional reasons, as does every officer who stays. Rather, this suggests that the Air Force can tailor its retention methods very specifically, thereby identifying more of the best for retention and addressing their specific concerns earlier than is currently occurring.

3. Ensuring an eight-year WIC graduate receives more money than a 14-year flight lead could incentivize aircrew to achieve higher status sooner while simultaneously making remaining on AD more lucrative.

4. This recommendation applies across all rated communities and weapons systems and is not unique to the CAF. The mobility, special operations, space, cyber, and enlisted forces could all benefit from a more focused approach to bonus payout. Critical to this process is the identification of the correct amount and then determining if it is affordable for the Air Force. If not, this argument lends credence to the previously made point that the most cost-effective means of retaining the best may not be monetary at all.

5. The argument as to whether or not these opportunities are necessary for the development of all officers is beyond the scope of this paper, except to say that not all lieutenants are going to be generals. There are those officers who would thrive on—and strongly desire the opportunity for—maintaining active flying status in lieu of career broadening opportunities like PME or staff jobs.

6. Currently, expectations dictate that PME by correspondence is a requisite to attend in residence. PME via distance learning utilizes online material, chat room discussions, and self-study. In-residence accomplishment of PME takes place in a classroom setting with more emphasis on peer interaction and instruction from professors.

7. In terms of PME levels, SOC is associated with the rank of captain; ACSC, major; and AWC, lieutenant colonel or colonel. *By correspondence* alludes to course accomplishment at home station via self-study while *in residence* implies PME attendance in person at AU.

8. Combatant commanders undoubtedly prefer close geographic proximity of combat assets; however, in times of fiscal austerity and smaller force structures, it is neither feasible nor affordable to continue at the rate previously enjoyed.

9. Reminiscent of the pre-Desert Storm era, the majority of fighter squadrons should remain in CONUS, with the purpose of recapitalizing tactical and operational capability. Further, bomber squadrons should rely on their global reach capability to influence specific target sets, as opposed to forward deploying at the frequency and duration currently experienced. The Air Force is in a prime position to return to its enduring principles and capitalize on the unique capabilities afforded to Airmen in their exploitation of the air, space, and cyber domains through airpower.

10. Enduring principles of airpower like speed, access, precision, economy of risk, and innovation—all implemented by a continuously engaged force—allow the Air Force to respond from afar without the need for a large geographic presence.

11. The idea of airpower-in-being builds upon Corbett's discussion of a "fleet-in-being." While Corbett espouses a primarily defensive role of a fleet-in-being, the enduring principles of airpower mentioned above give the Air Force an additional offensive advantage, with the unique ability to respond simultaneously through the air, space, and cyber mediums at a time and place of its choosing. While there is an acknowledged risk in geographic separation from the point of contention, the sustainment of a credible and capable Air Force that focuses on the enduring principles of airpower ultimately creates a formidable entity that cannot be over-

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looked by hostile forces during their political and military calculus. Corbett, *Some Principles of Maritime Strategy*, 224–25.

12. As the Air Force departs two theaters of operation, the talents of these men and women are required at home, preparing the next generation of CAF leaders for the air, space, and cyber domains.

13. See chap. 3 for a complete discussion of TFI limitations within the fighter community.

14. Rumelt, *Good Strategy, Bad Strategy*, 116.

15. *Ibid.*, 118.

16. This is not to suggest that bomber squadrons maintain manning levels coincident with requirements because all squadrons experience fluctuations in total manning. Rather, they generally have more personnel based on the crew concept, thereby alleviating some of the strain found in squadrons that operate single- or dual-manned aircraft. This advantage affords bomber squadrons the opportunity to divide work among more people, theoretically decreasing average work time for all.

Epilogue

This paper covers a narrow swath of the Air Force population. The communities included in this study account for less than 10 percent of total rated officers in the Air Force and less than 2 percent of the entire Air Force population.¹ That said, retention of a core cadre made up of the best rated officers from the fighter, bomber, and remotely piloted aircraft communities is critical to the strategic future of the Air Force and, by extension, to the national security of the United States. As such, the author offers a final “Dear Boss” letter:

Dear Boss,

Well, . . . I am still here, but many of the best from within our ranks are not, and this concerns me immensely. I have watched the finest of my peers leave in unimaginable numbers, not because they lacked the technological advantage or felt underpaid, but because they were tired. But aren't we all?

As a country, as an Air Force, we are exhausted. Nevertheless, what is it that makes us so weary that some of the finest would take their talents elsewhere? I have yet to hear someone succinctly describe what it is that makes so many of the best leave the combat air forces and a promising career on active duty for new adventures. Sure, we have all read the letters that contain a laundry list of complaints about what makes the job tough, but they do not offer many solutions. What is consistent, however, is that in each letter the toughness of the job is not what drives them out. Rather, the inability of the Air Force to accurately identify and address the underlying problem is what irks rated officers the most. Truth be told, the Air Force has not had to identify the problem for quite some time, but those times are changing—and rapidly so.

In the current environment, the Air Force does not have the luxury of asking vague questions pertaining to retention of the best, just as it does not have the luxury of divesting itself of these same officers to pay short-term bills. I have no doubt that the Air Force is aware of this, but I do not think the Air Force knows the right questions to ask, which leads directly to the fundamental problem.

For too long, categorization of rated communities occurred solely by aeronautical qualification. As these communities continue to shrink, however, we can see that wings on a pilot's chest can no longer be the sole qualifier for retention. Rather, the contextual differences among communities, weapons systems, and even basing locations must emerge as variables

of study for retention of the best from each. Otherwise, the Air Force is doomed to repeat mistakes of the past, relying on ill-focused methods of retention applied against a poorly understood problem.

The “bonus” is not motivating enough for the best to stay on active duty. Even though a great deal of these rated officers are taking their talents to the Guard or Reserve, thereby preserving a zero-sum game in the tactical arena, the loss of these officers from active duty does not posture the Air Force for long-term strategic success. As such, identification of the most influential variables by community, weapons system, and location—further striated by time—becomes existential to the strategic future of the Air Force.

Even though individual communities might demarcate the same categories of influential variables on retention, the contextual differences that exist because of diversified aircraft types, mission sets, and locations make these categories fundamentally different. These variances among communities must be the leverage points the Air Force uses to retain more of the best from each community.

Use of these leverage points means taking risks at every level of planning. Risk for the Air Force at the strategic level means saying no to regional combat air force presence, relying rather on Air Force global reach and global power to do the job. Risk at the operational level means treating communities differently and investing in a core of the best to sustain the force through hard times, thereby ensuring talent exists to train future talent in the good times. Risk at the tactical level means delegating responsibility for retention down to the lowest levels of leadership, thereby enabling solutions to retention at the point of inception rather than explosion. This is not to suggest that all retention problems are solvable using this methodology. But it does provide a more focused retention effort sorely lacking in the Air Force presently.

I have no doubt that the young men and women tasked to defend our nation will do so in grand style when called upon, but I am worried that it may be at a cost the country is unprepared to shoulder if more of the best are not retained. Whether it be an increased loss of blood, treasure, or both, the nation is ill prepared after over 20 years of continuous war to lose more of her sons and daughters than is required. I have faith that the Air Force can solve this problem, but it means making tough decisions and innovative changes to current retention methods. Further, I have to believe that we will come out of this current downturn stronger than we have been in the past.

Why, do you ask? Because I have topped the windswept heights, and I know that through every cloudbank, there is a blue sky and that the Air Force—made up of the best personnel—will be waiting to capitalize on it.

Notes

1. Percentages were calculated from authorized end strength numbers in the 2012 National Defense Authorization Act and the total number of Air Force rated officers cited in the Air Force Personnel Center static reports “Air Force Strength from FY 1948–2013” and “Regular Officer Career Family Career Field Rank Gender,” http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.

Appendix A

Capt Ron Keys's "Dear Boss" Letter*

Dear Boss,

Well, I quit. I've finally run out of drive or devotion or rationalizations or whatever it was that kept me in the Air Force this long. I used to believe in, "Why not the best," but I can't keep the faith any longer. I used to fervently maintain that this was "My Air Force," as much or more than any senior officer's . . . but I can't believe any more; the light at the end of my tunnel went out. "Why?" you ask. Why leave flying fighters and a promising career? Funny you should ask—mainly I'm resigning because I'm tired. Ten years and 2,000 hours in a great fighter, and all the time I've been doing more with less—and I'm tired of it. CBPO [Central Base Personnel Office] doesn't do more with less; they cut hours. I can't even entrust CBPO to have my records accurately transcribed to MPC [Military Personnel Center]. I have to go to Randolph to make sure my records aren't botched. Finance doesn't do more with less; they close at 15:00. The hospital doesn't do more with less. They cut hours, cut services, and are rude to my dependents to boot. Maintenance doesn't do more with less; they MND [maintenance non delivery] and SUD [supply delete] and take 2.5 to turn a clean F-4. Everybody but the fighter pilot has figured out the fundamental fact that you can't do more with less—you do less. (And everybody but the fighter pilot gets away with it. . . . When's the last time the head of CBPO was fired because a man's records were a complete disaster?) But on the other hand, when was the last time anyone in the fighter game told higher headquarters, "We can't hack 32 DOCs [designated operational capability] because we can't generate the sorties?" Anyway—I thought I could do it just like all the rest thought they could . . . and we did it for a while . . . but now it's too much less to do too much more, and a lot of us are tired. And it's not the job. I've been TDY [on temporary duty] to every dirty little outpost on democracy's frontier that had a 6,000-foot strip. I've been gone longer than most young jocks have been in—and I don't mind the duty or the hours. That's what I signed up for. I've been downtown and seen the elephant, and I've watched my buddies roll up in fireballs—I understand—it comes with the territory. I can do it. I did it. I can still do it—but I won't. I'm too tired, not of the job, just the Air Force. Tired of the extremely poor leadership and motivational ability of our senior staffers and commanders. (All those Masters and PMEs [professional military educators] and not a leadership trait in sight!) Once you get past your squadron CO [commanding officer], people can't even pronounce esprit de corps. Even a few squadron COs stumble over it. And let me clue you—in the fighter business when you're out of esprit,

* This letter was written a few years after the end of the Vietnam War by Capt Ron Keys (as an amalgamation of pilot concerns at the time) to Gen Wilbur Creech, TAC commander. Captain Keys was not personally planning on resigning at the time and later became the commanding general of Air Combat Command.¹

you're out of corps—to the tune of 22,000 in the next five years, if you follow the airline projections. And why? Why not? Why hang around in an organization that rewards excellence with no punishment? Ten years in the Air Force, and I've never had a DO [director of operations] or Wing Commander ask me what our combat capability is, or how our exposure times are running during ops, or what our air-to-air loss and exchange ratios are—no, a lot of interest in boots, haircuts, scarves, and sleeves rolled down, but zero—well, maybe a query or two on taxi spacing—on my job: not even a passing pat on the ass semiannually. If they're not interested, why should I be so fanatical about it? It ought to be obvious I'm not in it for the money. I used to believe—and now they won't even let me do that.

And what about career? Get serious! A string of nine-fours and ones as long as your arm, and nobody can guarantee anything. No matter that you're the Air Force expert in subject Y . . . if the computer spits up your name for slot C—you're gone. One man gets 37 days to report remote—really now, did someone slit his wrists or are we that poor at managing? Another gets a face-to-face, no-change-for-six-months brief from MPC . . . two weeks later? You got it—orders in his in basket. I'm ripe to PCS—MPC can't hint where or when; I've been in too long to take the luck of the draw—I've worked hard, I've established myself, I can do the job better than anyone else—does that make a difference? Can I count on progression? NO. At 12–15 hours a day on my salary at my age, I don't need that insecurity and aggravation. And then the big picture—the real reasons we're all pulling the handle—it's the organization itself. A noncompetitive training system that allows people in fighters that lack the aptitude or the ability to do the job. Once they're in, you can't get them out . . . not in EFLIT [lead-in training], not in RTU [replacement training unit], and certainly not in an operational squadron. We have a fighter pilot shortfall—didn't you hear? So now we have lower quality people with motivation problems, and the commander won't allow anyone to jet-tison them. If you haven't noticed, that leaves us with a lot of people in fighters, but very few fighter pilots, and the ranks of both are thinning; the professionals are dissatisfied and most of the masses weren't that motivated to begin with. MPC helps out by moving Lts every 12–15 months or so—that way nobody can get any concentrated training on them before they pull the plug. Result: most operational squadrons aren't worth a damn. They die wholesale every time the Ag-gressors deploy—anybody keep score? Anybody care? Certainly not the whiz kid commander, who blew in from 6 years in staff, picked up 100 hours in the bird, and was last seen checking the grass in the sidewalk cracks. He told his boys, "Don't talk to me about tactics—my only concern is not losing an aircraft . . . and meanwhile, get the grass out of the sidewalk cracks!"—and the clincher—integrity. Hide as much as you can . . . particularly from the higher headquarters that could help you if only they knew. They never will though—staff will see to that: "Don't say that to the general!" or "The general doesn't like to hear that." I didn't know he was paid to like things—I thought he was paid to run things . . . how can he when he never hears the problems? Ah well, put it off until it becomes a crisis—maybe it will be overcome by events. Maybe if we ignore it, it won't be a problem. (Shh, don't rock the boat.) Meanwhile, lie about the takeoff times, so it isn't an ops or maintenance

late. (One more command post to mobile call to ask subtly if I gave the right time because—ahh, that makes him two minutes late, and I will puke!) Lie about your DOC capability because you're afraid to report you don't have the sorties to hack it. "Yes, sir, losing two airplanes won't hurt us at all." The party line. I listened to a three-star general look a room full of us in the face and say that he "didn't realize that pencil-whipping records was done in the Air Force. Holloman, and dive toss was an isolated case, I'm sure." It was embarrassing—that general looked us in the eye and said, in effect, "Gentlemen, either I'm very stupid or I'm lying to you." I about threw in the towel right there—or the day TAC [Tactical Air Command] fixed the experience ratio problem by lowering the number of hours needed to be experienced. And then they insult your intelligence to boot. MPC looks you straight in the eye and tells you how competitive a heart-of-the-envelope three is! . . . and what a bad deal the airlines offer! Get a grip—I didn't just step off the bus from Lackland! And then the final blow, the Commander of TAC arrives—does he ask why my outfit goes 5 for 1 against F-5s and F-15s when most of his operational outfits run 1 for 7 on a good day? (Will anybody let us volunteer the information?) Does he express interest in why we can do what we do and not lose an airplane in five years? No—he's impressed with shoe shines and scarves and clean ash-trays. (But then we were graciously allotted only minimum time to present anything—an indication of our own wing's support of the program. Party line, no issues, no controversy—yes, sir; no, sir; three bags full, sir.) . . . And that's why I'm resigning . . . long hours with little support, entitlements eroded, integrity a mockery, zero visible career progression, and senior commanders evidently totally missing the point (and everyone afraid or forbidden to inform them). I've had it—life's too short to fight an uphill battle for commanders and staffs who won't listen (remember Corona Ace?) or don't believe or maybe don't even care. So thanks for the memories, it's been a real slice of life. . . . But I've been to the mountain and looked over and I've seen the big picture—and it wasn't of the Air Force.

"This is your captain speaking . . . on your left you should be able to see Denver, Colorado, the mile. . . ."

Note

1. See Anderegg, *Sierra Hotel*, app. 2, p. 190, for the letter and p. 67 for the circumstances surrounding its writing.

Appendix B

2009 “Dear Boss” Letter*

Dear Boss,

Well, I quit. I've finally run out of drive or devotion or rationalizations or whatever it was that kept me in the Air Force this long. I used to believe that we were the finest organization in the world—that combat effectiveness was the only thing that really mattered, and that no one on earth was as effective at anything as we were at air combat. But I cannot keep faith any longer. The light at the end of my tunnel went out. “Why?” you ask. Why leave flying jets and a “promising” career? Funny you should ask—mainly I’m resigning because I’m tired. Fourteen years and 2,300 hours in the fast jet business and all the time I’ve been doing more with less—and I’m tired of it. Fourteen years of 12-hour days and long deployments and it turns out that most people around here don’t actually care if we’re any good! They only care if we look good. And there is a difference.

I don’t mind the duty or the hours. That’s what I signed up for. I’ve been all around the world and been shot at by the bad guys. I’ve had buddies who died in fireballs and watched their widows and children cry their eyes out—I understand—it comes with the territory. I can do it. I did it. I can still do it—but I won’t. I’m too tired, not of the job, just the Air Force. I’m tired of the poor leadership and micromanagement of our senior staffers and commanders. All those Masters [sic] and PME [professional military education] grads and not a true leadership trait in sight! Once you get past your squadron commander, people can’t even pronounce esprit de corps. Even a few squadron commanders stumble over it. And let me clue you—in the fighter business, when you’re out of esprit, you’re out of corps. We’ve come to value political correctness and feel-good slogans above aggressiveness and warrior spirit. We’ve completely forgotten our roots and what traits made us good in the first place.

The Air Force is in a constant identity crisis. Since I first put on a uniform, we’re on our third Air Force emblem, third different flight suit, second battle dress uniform (third if you include the Velcro nametag debacle), and working on our fourth service dress! We’ve had so many mission statements, vision statements, and core values statements that I can’t keep up. Then we heard the Chief of Staff [CSAF] talk about how he wants to instill a sense of our heritage. What heritage? We don’t even have a uniform on long enough to become heritage! We are just a constantly changing set of buzzwords, clothes, and fads. After the last CSAF left, what was the very first thing the new boss did to supposedly refocus us on the

* This letter was adapted by an experienced F-15 pilot from the original “Dear Boss” letter (which was an amalgamation of pilot concerns at the time) written by then-captain Ron Keys after the Vietnam War.

mission and instill some Air Force pride? He changed our clothes and made us wear blues. Talk about missing the mark! It used to be that our pride came from simply being the best. I guess not anymore. And there are the buzzwords. I can't go to a commander's call without hearing "wingmen," "mutual support," and "core values" awkwardly thrown around until I'm nauseous. Don't get me wrong, they are fine concepts. But they are just words, over-used and infrequently backed up by the actions of our leaders. They have been watered down to the point where they lost all meaning. Not long ago, Quality Air Force was all the rage. We did surveys and made graphs and nothing got better. Now we have AFSO21 [Air Force Smart Operations for the 21st Century] and we have working groups and stop light charts and nothing has gotten better. We tag on to civilian business management techniques that we don't truly understand, then think we can simply apply a 10-step flow chart process to every problem and come up with the right solution. What happened to leadership, creativity and innovation? Give me a bar napkin, a pen, and a bottle of whiskey and I'll solve your problems in one night. And I won't have to remember what step number 7 was in the computer based training slides to be able to apply common sense.

And what about career? Get serious! Progression has little to do with leadership ability and actual performance, but rather filling a series of squares. A couple years back, we had the "no practice bleeding" policy—if you needed a master's degree, the Air Force would send you. Don't do PME in correspondence unless you don't get picked up to go in-residence. It only made too much sense. But this is the Air Force, so the pendulum had to swing back, and now it's swung so far you can hardly see it anymore! They changed the ACSC [Air Command and Staff College] program so that it doubles as a master's program—but you can't realistically get selected to go in-residence unless you already have a master's degree. What sense does that make? So now you have guys simply finding the easiest, most useless online master's degree program they can find, just to fill the square. And the Air Force is stuck paying the bill! Everyone loses in that battle. The Air Force is out of the money with no real benefit and its people spend their few free hours reading books and writing papers on subjects that are unrelated to what we really do. To paraphrase our former Chief of Staff, the Air Force treats a master's in basket weaving in the same exact light as a master's in quantum physics from MIT. Do we want officers who are truly educated in relevant subjects or do we just want to be able to flaunt our statistics on how educated we appear? I had a general officer literally tell me that we do this to sift out those who are truly dedicated to their career. I guess 60–70 hour weeks spent trying to do well at my actual duties don't show enough devotion. And now my favorite: you also can't realistically get selected for ACSC in-residence unless you've completed it in-correspondence first. So you can't take the course until you've taken the course? Huh? We have lost our minds! What happened to family time? I work 12 hours or more every day, yet I'm expected to come home and work on classes at night and on the weekends just so I can be competitive to re-cover that same material at Maxwell? Just when exactly am I supposed to spend time with my wife and kids and recharge my

batteries? I hardly see my kids as it is. Something has to give. It's either my job, my coursework, or my family. I can't do all of that well. Does anyone really wonder anymore why our folks face pressure from home to get out? Does anyone really wonder why our folks are completely burned out?

What am I supposed to tell young lieutenants and captains who come to me asking if they should spend their spare time working on their master's degree or instead start work on their flight lead upgrade briefs? They don't have time to do both well, and anyone who tells them they need to just manage their time better is so far out of touch I can't take it. By all common sense, young guys should be focusing on being tactical experts and knowing everything they can about the weapons system they are tasked to employ. But I can't tell them to prioritize that anymore if they plan to stay in the Air Force. I can't tell them to commit career suicide because the fact is that the Air Force doesn't care if they are tactical experts. It only cares if they have their squares filled. The Air Force has decided that the 4-star grooming process begins on day one, and that seems to be our focus. We need to have experts at the tactical level—we cannot afford to be generalists at the company grade operator level. We were told by a senior officer the other day that we now need to be experts in space and cyberspace in addition to being experts in the air—this to an audience of mostly junior officers. Are you kidding me? We hardly have enough time or training to be true experts in our own lane, but now we're supposed to be experts in everyone else's? The theory seems to be that we need to have a better understanding of how those things work if we become "senior leaders." But we've put the cart before the horse once again. When our operators are also our officers, we cannot afford to focus only on officer development and senior leader grooming when guys are lieutenants and captains. Well, we can, but it's at the expense of effective operations. And isn't that what it's really all about? I guess not.

And if that isn't enough, the Air Force chooses to select its finest not based on actual Air Force work, but on how much ancillary stuff a guy does. To be selected as a quarterly company grade officer award winner in any wing, the write-up needs to include bullets for (1) "Leadership and Job Performance in Primary Duty," (2) "Significant Self Improvement," and (3) "Base and Community Involvement." So what happens to the guy who is the best in the world at his actual duty and a natural born leader, but doesn't coach a kid's soccer team or tutor underprivileged students in his spare time (what spare time)? Answer: he can't be competitive for the quarterly award above the squadron level since he isn't involved enough in the community. Which means he isn't competitive for the annual award. Which means he doesn't look as strong on paper, even though he may be the very best officer and tactician we have. As we know, it doesn't matter how good you are, it only matters how you look on paper. Why on earth do we prioritize non-Air Force work to identify our standout officers? The write-up should end at "Leadership and Job Performance in Primary Duty." Period, dot. Anything else means that we are using the wrong measuring stick.

And there are no more carrots left to keep guys motivated, only bad deal after bad deal, and hardly a “thank you” for any of it. If I have to listen to another colonel or general officer tell me how they understand what it’s like now since they had a bad deal once too—then proceed to describe how much fun they actually had on that “bad deal” ALO [air liaison officer] tour in Germany in the late 1980s—I’m going to lose it. If I have to listen to another commander say that they can’t understand why anyone would want to get out of this great Air Force when the worst deal they ever had in their whole career was as a T-38 IP at Willie back in the day, I’m going to scream. And then there’s always the lecture about how there really aren’t any “bad deals.” Really? Come on. We all know better and it just fuels bitterness when our leaders don’t even acknowledge that. I’m tired of watching my buddies dive under desks every time the commander walks down the hall for fear that he’s going to drop a 179- or even a 365-day deployment on them with three weeks’ notice. Really now, do we have a rash of guys slitting their wrists right before they go to the AOR [area of responsibility] or are we that poor at managing? But at least it will come with a pep talk about how it’s good for your “career” to get a little war stink on you, even if it’s just the smell of a desk in some rear echelon office. Another square checked. Maybe you’ll even earn a medal for updating those PowerPoint slides over there, or whatever worthless job we’ve invented to inflate our numbers and make it look like the Air Force is pulling its weight in theater. Oh, and after you get back from that little vacation, you’d better be ready for a remote three months later. Sorry, no credit for time served. I’m sure the wife will understand. She’ll be comforted by the mere three hour wait and rude desk clerks at the base medical clinic when the kids inevitably get sick the day after you leave. We’re at war—I get it, I really do. But how on earth can anyone be expected to deal with such constant instability in their lives over such a long period of time and take it with a smile?

But the real problem is much bigger than all of that—we have lost the drive to be good. We were good for so long that we forgot just what exactly it was that made us that way. We have forgotten all of the lessons learned in blood from our predecessors, and focus only on looking good. We held an advantage in both technology and training for a long time and we became complacent. Technology is vital, but if we aren’t experts at using it, what good are we? And now any technological edge we had is being minimized by any third-world country with a checkbook, as cheap electronic attack and air defense systems proliferate. So now we’re down to training and experience to carry us through. Not long ago, we used to laugh in our intelligence briefs when we heard how little enemy pilots flew per year. It’s not so funny anymore, as we struggle to get in the air ourselves. We’ve even resorted to using simulator time to make us appear more experienced on paper, but that is only a mirage. Sims can be decent training, but they are no substitute for flying, no matter how much the bean counters and desk jockeys wish they were! Pilots spend entire assignments training and studying for upgrades, only to get shipped off to a non-fighter assignment just as they start to “get it.” That makes no sense! Why not extend assignments for an extra year and let our guys actually put their

obscenely expensive training and newly gained experience to use for even just a little while? Nope. Instead we move them on to a non-fighter assignment to make room for more newbies . . . after all, the Air Force is short on pilots so we need to keep training new ones. But what good is it to have a ton of fighter pilots, few of whom have much actual experience flying fighters? We have prioritized having “fighter experience” in jobs all across the Air Force . . . everywhere, that is, except actually in fighters. When we do get an experienced guy in the door, they are always fresh out of the TX course instead of current in the jet. Only one time in the last three years have I seen a guy show up who was mission ready—and that was the new weapons officer. We have to retrain all of our “experienced” guys again from mission qualification training on up, so our schedule is one constant upgrade train. Why doesn’t someone do one of those AFISO 21 group hugs and analyze how much money we waste constantly retraining guys from the ground up every couple of years? All to the tune of fifteen grand per flight hour, I might add. Maybe we could use the money saved to buy a new plasma TV to display the schedule or another round of new office furniture. Almost never do we get to just go out and practice advanced CT [counterterrorism] scenarios, so we spend all of our time just trying to stay afloat instead of actually getting better. And the same story is true throughout the CAF [combat air forces]. Result: Most operational squadrons are not worth a damn. And no one seems to care.

Fourteen years in the Air Force, and I’ve yet to have an OG [operations group] or Wing Commander ask us what our true combat capability is—I mean our true skills, not how we look on our SORTS [Status of Resources and Training System] report. Lots of questions on dirty boots, low zippers, and crooked patches. Lots of questions about why I landed five minutes past my scheduled window on my once-a-year fight-tank-fight blue air DCA [defensive counterair] sortie. We’ve gotta make the statistics look good, even if they are meaningless, or else someone might have to actually explain to the Wing Commander why I used common sense to get that extra setup while we had the airspace and gas. Even our former crown jewel, RED FLAG, has become a joke. Instead of getting some folks good training, we decided to be all-inclusive and try to get everyone some training. We wouldn’t want anyone to feel left out in today’s Air Force, so once again real combat capability suffers.

And then there is queep [undesirable nonflying duties such as infinite paperwork]. Oh, the queep. We have no support staff anymore, so we spend our time supporting ourselves administratively instead of improving ourselves tactically. On top of that, pilot jobs that used to be manned two or three deep are now single deep at best. So instead of young pilots spending their time studying and learning the ropes underneath someone’s wing, they are now chiefs of a shop. Yet, rather than the chain of command recognizing that fact and refocusing just on what’s actually important, the demands on ridiculous queep have only risen. Case in point: have you seen an OPR [officer performance report] from 20 years ago? They are full of white space and sub-bullets and all sorts of things that are forbidden now. That didn’t seem to hold back all of today’s generals much. Now, we have all of these

unwritten rules on how to fill out that form that it has become a voodoo art. For what? Are we better able to evaluate someone who doesn't have any white space at the end of a line on his performance report? Does it really make a difference if I spell out numbers or use digits? Does it really matter if I abbreviate the word "squadron" as "sq" and "sqdn" in the same section? Does that somehow change the meaning? The real question should be: does it make us more combat capable? Of course not! But, we grind away for hours trying to figure out how to word-smith in our secret OPR code so that even the bottom feeders look like heroes, but it takes a Little Orphan Annie secret decoder pin to figure out what we're really trying to say. We had a report kicked back from the wing the other day to make us change the abbreviation "2nd" to "2d." What on earth was the point of that? It's death by paper cuts, and I don't have the energy to spend on such ridiculous nonsense anymore. Not when I'm saddled with forty other "urgent" nonissues, each of which I need to solve right now, yet none of which are actually important. I even heard this little gem: "if we could only get our queep perfect, the tactical stuff will follow naturally." What? We've got it all backwards! We worry about the stuff that doesn't matter at the expense of what truly does. And the unimportant stuff is all I ever hear about from leadership. It doesn't matter if we can execute our increasingly complex tactics, handle EA [electronic attack], or even find our sort . . . as long as the statistics look good and our queep is done right, the bosses are happy. After all, if the minimum training wasn't good enough, it wouldn't be the minimum, right? Well we're going to find out. We're min-running the entire Air Force. God help us if we ever have an all-out air war. We are going to pay the price in blood on the backs of the minimally trained and inexperienced. We have learned these lessons before. We have been the hollow force. We have seen what blind faith in technology with minimal training does to combat success. Have we forgotten everything we learned in Vietnam?

Not long ago, I had a general tell me that he wasn't worried about retention because the airline industry had gone down the toilet. Well I've got news for him—that doesn't matter. Because, you see, I'm not the only one that feels this way. Every guy I know is looking for the door and counting the days until their contract is up. Not a single one of them wants an airline job, either. Not one. If they can't get hired by the Guard, then they'll just go get an MBA with the new GI Bill and get a regular job. Anything with a bit of stability will do. It turns out we've picked up a few nonflying skills along the way, and those are in demand, bad economy or not. It's never been about the money for us, so the bonus isn't the driver. It's been about the mission. Our rewards are purely in the satisfaction that we've done a good job, earned the respect of our peers, and made a difference. But it's just too difficult to see how to make a real difference here anymore. Not in this climate of yes men and party lines and square filling and image-over-substance. We are watching an organization that we once worked so hard to be a part of veer off into insignificance as it focuses so frequently on the unimportant, all while it kicks us square in the junk and expects us to smile.

And that's why I'm resigning . . . long hours with little support, no stability or predictability to life, zero career progression, and senior commanders evidently totally missing the point. Our only real heritage—an unfailing drive for excellence—has gone by the wayside in favor of a culture of square filling. I've had it—life's too short to fight an uphill battle for commanders and staffs who won't listen or don't believe or maybe don't even care. So thanks for the memories, it's been a real slice of life. . . . But I've been to the mountain and looked over and I've seen the big picture. It wasn't all green. But it wasn't Air Force blue either.

Appendix C

Gen Mark A. Welsh III E-mail to USAFE Fighter Pilots

From: Welsh, Mark A III Gen USAF USAFE USAFE/CC

Sent: Mon Apr 25 20:19:42 2011

Subject: USAFE Fighter Pilots

To USAFE Fighter Pilots

I need your help. During a recent 4-star meeting, we talked about what appears to be a pending fighter pilot shortage. The AF's rated personnel management folks are projecting a 300 fighter pilot shortfall in FY13 that could grow to over 1000 by FY21. They also told us that the fighter community's bonus "take rate" is 10% lower than the rest of the rated community. Obviously, many of you are leaving, or thinking about leaving, the Air Force for other opportunities. If you've already made the decision to do so, then please accept my sincere thanks for your service and best wishes for every success in the future . . . it's an honor to have served beside you. My concern is not that you've made the choice to pursue a new path, but that we don't really understand why you made the choice.

You may have heard the story about a Captain fighter pilot who wrote a letter to the Commander of Tactical Air Command a couple of years after the end of the Vietnam War. The letter started "Dear Boss, Well, I quit" and went on to list the frustrations that he and his peers were experiencing. I just read a more recent version, written in 2009. It's attached to this note. If you believe the author, some things may not have changed much in 30 years. Our Air Force is in a dynamic state of change and its leaders need to know why some of their most talented, highly trained people are leaving. As we transition to a 5th Generation fighter force, we simply can't afford to lose front line fighter pilots at our current rate.

I understand that it's a busy time to be in the Air Force. The fighter community is faced with an increasing ops tempo, fewer fighters, less flying, more non-flying jobs and an unclear career sight picture. My gut feeling is that this combination contributes to good people leaving, but I doubt these are the only factors. I suspect some of the issues raised in the Dear Boss letter are also in play. But, most importantly, I don't know for sure. And I don't believe AF leaders can make smart fighter pilot force management decisions until we do.

Interestingly, we also have a fighter WSO shortage which will persist for the next few years. But the longer term trends for that career field are positive. That's clearly not the case with fighter pilots and I want to know as much as possible about what's causing retention to move in the wrong direction.

So, I have a favor to ask. I'd like to hear your thoughts on what is driving fighter pilot retention down. You can send them directly to my CAG at usafe.ccx@

APPENDIX C

ramstein.af.mil. They'll strip names off the inputs, then pass them to me, unedited. I'm looking for the ground truth as you see it, not the filtered, watered-down "this is what the boss wants to hear" truth. Once I've seen it all, I'll give you some feedback . . . including what I plan to do with the info.

Let me close by saying "Thank You" to you and your families for all of your hard work and sacrifice. You, and so many other great Airmen in so many career fields, are the reason we're the world's greatest Air Force. But no matter how good we are, we need to get better. When your job is to fight and win your Nation's wars, you can never be good enough. I will do everything in my power to make USAFE more combat capable; that includes trying to keep our best fighter pilots on Active Duty. If you think "best fighter pilot" refers to you, please let me know what you think. If you don't, this note isn't for you.

R/Boomer

Appendix D

Pilot Retention Survey

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Pilot Retention Survey

AU SCN 13-008, expires 23 Jan 14

IAW AFI 38-501, para 2.2, your participation in this survey is encouraged but voluntary. Strict confidentiality concerning any identifiers of individual survey respondents is maintained and data collection is anonymous. Your feedback is critical to academic program improvement and greatly appreciated.

This survey is part of a research project for the School of Advanced Air and Space Studies (SAASS). Information gathered will be included in a thesis presented to the SAASS faculty at the end of the 2012-2013 academic year.

Desired survey participants are Fighter, Bomber and RPA pilots from the Combat Air Force.

The purpose of the survey is to identify the root cause of retention problems, from the viewpoint of junior officers, within the Fighter, Bomber and RPA career fields.

Questions throughout the survey will refer to the "Best" officers leaving the rated community early rather than serving a full career, and by design does not define "Best." This decision was made in an effort to ensure that respondents would not bracket the question in terms of rank, position, airframe or any other defined criteria.

Any viewpoints expressed in this survey are not those of the Air Force, are the work of the author and the product of the School of Advanced Air and Space Studies alone.

What is your current rank?

- ☐ Lieutenant
- ☐ Captain
- ☐ Major
- ☐ Lieutenant Colonel
- ☐ Colonel

What is your background?

- ☐ Fighter Pilot
- ☐ Bomber Pilot
- ☐ RPA Pilot

What year did you graduate from your initial aviation training (UPT, ENJJPT)?

Have you completed your initial UPT Active Duty Service Commitment (ADSC)?

- ☐ Yes
- ☐ No

Did you sign the Aircrew Continuation Pay (Bonus)?

- ☐ Yes
- ☐ No

Section I: In your experience, how important are the following variables in determining the retention of CAF pilots in your current community?	Very important	Quite important	Fairly important	Slightly important	Not important at all
Air Force Identity (AF Messaging, Mission Focus, Competency)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Money / Compensation (Base Pay, COLA, "Bonuses", Flight Pay, Benefits, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion / Recognition (Masters, PME)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family / Stability (Base Location, Quality of Life, Move Timing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ops Tempo (Deployments, Manning, Flying Opportunities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you would like to expound on any the topics from Section I, please do so	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Life Goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

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APPENDIX D

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Pilot Retention Survey

AU SCN 13-008, expires 23 Jan 14

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Section II: Does the Air Force have a Rated Officer Retention Problem?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My flying community is currently experiencing, or is expected to have a retention problem in the near future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The rated officers that are currently electing to leave the Air Force before retirement age are among the "best" officers in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aircrew Continuation Pay is seen as more of an entitlement in my community as opposed to a "bonus."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The "best" officers in my community make the decision to separate well before their Undergraduate Pilot Training Active Duty Service Commitment has expired, and well before the bonus becomes available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rated officers are leaving the Active Duty, despite a poor economic environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to expound on any the topics from Section II, please do so:

Section III: What are the Implications / Ramifications to the future of the Air Force if this problem is not fixed?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My squadron has been able to maintain a consistent level of manning with the current rate of pilot separation from the Air Force.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The combat readiness of my squadron has not been affected by the current rate of pilot separation from the Air Force.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The "best" rated officers I expected to see leading the Air Force as commanders (at the SQ/CC level and above) are leaving Active Duty well before they reach that milestone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The security of the United States is weaker because the "best" officers elect to separate from Active Duty as opposed to staying on past their Undergraduate Pilot Training Active Duty Service Commitment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current Air Force senior leadership has a good understanding of the quantity and quality of rated officers leaving after their initial Active Duty Service Commitment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The General Officer ranks will be less capable because the "best" officers elect to leave Active Duty early in their career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to expound on any the topics from Section III, please do so here:

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

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Pilot Retention Survey

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Section IV: What can/should the Air Force do to address this problem?	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Aircrew Continuation Pay (ACP) or the "Bonus" does a good job of retaining the "best" rated officers from my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The opportunity to fly the newest and most advanced weapons systems is enough for me to stay on Active Duty beyond my initial Undergraduate Pilot Training Active Duty Service Commitment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The variables affecting my decision to stay on or leave Active Duty have changed since I completed pilot training.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Many of the "best" rated officers who leave Active Duty after their Initial Active Duty Service Commitment would...	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
stay if there was more focus on the mission as opposed to administrative details.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stay if there were more focus on tactical competency as opposed to career progression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stay if Air Force messaging about the mission was matched by Air Force spending.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stay if family stability and welfare was better than it is currently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leave regardless because of better opportunities / compensation in the Guard or Reserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
leave regardless because of better opportunities / compensation in the civilian sector.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you would like to expound on any the topics from Section IV, please do so here:

If you have any other questions/comments pertaining to this survey or Air Force retention, please write them here:

Thank you for taking the time to perform this survey. Your answers are invaluable to this research project. Clicking on the Save button will retain your response as you close and re-open the survey. Clicking on the Finish button will submit your responses and you will be re-directed to the AU webpage.

Appendix E

Pilot Retention Survey Solicitation E-mail

From: [Maj Brian Stahl, SAASS Class XXII Student](#)
To: [STAHL, BRIAN T Maj USAF AFTC AFRI/AS](#)
Subject: Pilot Retention Survey
Date: Friday, February 22, 2013 1:59:44 PM

Greetings,

Pilot retention is a pressing problem in the United States Air Force which is receiving the attention of the highest ranks of leadership for study. You have been identified as possessing one of four AFSCs for fighter, bomber and RPA pilots who are the population of interest. This Pilot Retention Survey is intended to gather data as part of a research project on pilot retention for the School of Advanced Air and Space Studies (SAASS). After I received AU/CC permission to conduct this survey, your names were provided to me by your schools.

Pilot Retention Survey

When you click on the survey link, if you get a webpage indicating "There is a problem with this website's security certificate," it is safe to proceed with "Continue to this website (not recommended)" to access the survey. You do not have to be on a government computer to take this survey so you may forward this email and access your survey link from any computer. This survey link is for you alone, however, so please do not forward the survey link to others.

This survey is voluntary, anonymous, and results will only be reported in aggregate using statistical data. It will take approximately 10 minutes to complete, and will provide invaluable insight to the variables affecting retention in the Combat Air Force. The data collected from your answers to these questions will be included in a thesis titled, "*Blunting the Spear: Why Good People Get Out*," presented to the SAASS faculty.

The survey will remain available to you until February 28, 2013.

If you have any questions about the survey, please contact the researcher at brian.stahl.2@us.af.mil.

Again, thank you for your time. I understand how valuable it is.

Respectfully,

Maj Brian Stahl
"BRUTUS"
SAASS Class XXII Student

Abbreviations

A1	Manpower, Personnel, and Services
ACC	Air Combat Command
ACIP	aviation career incentive pay
ACP	aviator continuation pay
ACSC	Air Command and Staff College
AD	active duty
ADSC	active duty service commitment
AEF	air and space expeditionary force
AEF Next	Air Expeditionary Force Next
AETC	Air Education and Training Command
AFCS	Air Force corporate structure
AFI	Air Force instruction
AFPC	Air Force Personnel Center
AFR	Air Force Reserve
AFRC	Air Force Reserve Command
ALO	air liaison officer
ANG	Air National Guard
ANOVA	analysis of variance
APPG	<i>Annual Planning and Programming Guidance</i>
ARC	Air Reserve Component
AU	Air University
AWC	Air War College
CAF	combat air forces
CAP	combat air patrol
CFMP	core function master plan
CJCS	chairman of the Joint Chiefs of Staff
COIN	counterinsurgency
CONUS	continental United States
CR	crew ratio
CSAF	chief of staff of the Air Force
CSO	combat systems operator
DAF	Department of the Air Force
DARO	Defense Airborne Reconnaissance Office
DCGS	distributed common ground system

ABBREVIATIONS

DOC	desired operational capability
DOD	Department of Defense
FAA	Federal Aviation Administration
FS	fighter squadron
FY	fiscal year
GAO	Government Accountability Office
GO	general officer
GSC	Global Strike Command
IP	instructor pilot
JCS	Joint Chiefs of Staff
LRE	launch-and-recovery element
LRS-B	long-range strike bomber
MANOVA	multivariate analysis of variance
MCE	mission control element
MWS	major weapons system
NDAA	National Defense Authorization Act
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
ONE	Operation Noble Eagle
OSD	Office of the Secretary of Defense
PAA	primary aircraft authorized
PCS	permanent change of station
PME	professional military education
PPBE	Planning, Programming, Budgeting, and Execution
PRP	personnel reliability program
RPA	remotely piloted aircraft
RPAS	remotely piloted aircraft system
SAASS	School of Advanced Air and Space Studies
SECAF	secretary of the Air Force
SLEP	service life extension program
SOC	Squadron Officer College
TAC	Tactical Air Command
TDY	temporary duty
TFI	Total Force Integration
UAV	unmanned aerial vehicle
UPT	Undergraduate Pilot Training

ABBREVIATIONS

URT	Undergraduate RPA Training
USAFE	United States Air Forces in Europe
USAFWS	United States Air Force Weapons School
USGAO	United States Government Accountability Office
UTC	unit type code
WIC	Weapons Instructor Course
YAS	years of aviation service

Bibliography

- Air Combat Command (ACC)/A3. To all active duty, Air National Guard, and Air Force Reserve United States Air Force Weapons School Weapons Instructor Course 2013-B selection board applicants. Memorandum, 18 December 2013.
- Air Expeditionary Force. "AEF Next Cycle." Air Force Portal. <https://aef.afpc.randolph.af.mil/default.aspx>.
- Air Force Instruction 11-2A/OA-10. Vol. 1, *Flying Operations, A/OA-10 Aircrew Training*, 31 August 2006.
- Air Force Instruction 11-2B-1. Vol. 1, *Flying Operations, B-1 Aircrew Training*, 23 December 2011.
- Air Force Instruction 11-2B-52. Vol. 1, *Flying Operations, B-52 Aircrew Training*, 21 November 2006.
- Air Force Instruction 11-2F-15E. Vol. 1, *Flying Operations, F-15E Aircrew Training*, 21 March 2011.
- Air Force Instruction 11-2F-16. Vol. 1, *Flying Operations, F-16 Pilot Training*, 11 August 2011.
- Air Force Instruction 11-2F-22. Vol. 1, *Flying Operations, F-22 Aircrew Training*, 19 May 2006.
- Air Force Instruction 11-2F-35A. Vol. 1, *Flying Operations, F-35 Aircrew Training*, 13 September 2010.
- Air Force Instruction 11-2MQ-9. Vol. 1, *Flying Operations, MQ-9—Crew Training*, 3 June 2008.
- Air Force Instruction 11-412. Vol. 1, *Flying Operations, Aircrew Management*, 10 December 2009.
- Air Force Instruction 11-418. *Operations Supervision*, 15 September 2011.
- Air Force Instruction 36-2101. *Classifying Military Personnel (Officer and Enlisted)*, 14 June 2010.
- Air Force Instruction 36-2107. *Active Duty Service Commitments*, 30 April 2012.
- Air Force Instruction 36-3004. *Aviator Continuation Pay (ACP) Program*, 12 April 2007.
- Air Force Instruction 36-3205. *Applying for the Palace Chase and Palace Front Programs*, 10 October 2003, incorporating change 1, 10 September 2008, and interim change 2, 12 November 2009.
- Air Force Instruction 38-201. *Manpower and Organization: Management of Manpower Requirements and Authorizations*, 30 January 2014.

BIBLIOGRAPHY

- Air Force Instruction 91-202. *The US Air Force Mishap Prevention Program*, 5 August 2011.
- Air Force Personnel Center/DPAFF. *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR [Cumulative Continuation Rate] and TARS [Total Active Rated Service] FY [Fiscal Year] 04 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR and TARS FY 05 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- Air Force Personnel Center/DPAOY. *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR and TARS End FY 00 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle CCR and TARS End FY 01 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR and TARS End FY 02 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- Air Force Personnel Center/DPAPA. *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR and TARS FY 06 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 07 Final Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 08 Final Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.

- Air Force Personnel Center/DPAPF. *Rated Officer Retention Analysis: Pilot, Navigator and Air Battle Manager CCR [Cumulative Continuation Rate] and TARS [Total Active Rated Service] FY 03 Final Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- Air Force Personnel Center/DSYA. *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 09 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 10 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 11 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.
- . *Rated Officer Retention Analysis: Pilot, Combat System Officer and Air Battle Manager CCR and TARS FY 12 Report*. Air Force Personnel Statistics: Static Reports. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.default.sas&_service=pZ1pub1&_debug=0.
- Air Force Personnel Center/DSYDT. *MWS [Major Weapons System] ACP [Aircrew Continuation Pay] Summary*, 2012. Air Force Personnel Statistics: Static Reports. Accessed 18 December 2012. http://access.afpc.af.mil/vbinDMZ/broker.exe?_program=DEMOGPUB.static_reports.sas&_service=pZ1pub1&_debug=0.
- Air Force Policy Directive 11-4. *Aviation Service*, 1 September 2004.
- Air Force Policy Directive 91-2. *Safety Programs*, 24 July 2012.
- Anderegg, C. R. *Sierra Hotel: Flying Air Force Fighters in the Decade after Vietnam*. Washington, DC: Air Force History and Museums Program, 2001. <http://www.afhso.af.mil/shared/media/document/AFD-100929-043.pdf>.
- Baldor, Lolita C. "Next Top Guns? Air Force Faces Shortage of Drone Pilots." NBC News, 9 August 2012. http://www.nbcnews.com/id/48597497/ns/us_news/t/next-top-guns-air-force-faces-shortage-drone-pilots.
- Belasco, Amy. *The Cost of Iraq, Afghanistan, and other Global War on Terror Operations since 9/11*. Congressional Research Service (CRS) Report RL33110. Washington, DC: CRS, March 2011.

BIBLIOGRAPHY

- Biebel, Maj Brian E. To peers in the fighter pilot community. "Dear Boss" letter, 2009.
- Boeing. 2012 *Pilot and Technician Outlook*. Seattle, WA: Boeing Flight Services, 2012. <http://www.boeing.com/boeing/commercial/aviationservices/downloads.page>.
- Boyne, Walter J. *Beyond the Wild Blue: A History of the U.S. Air Force*. New York: St. Martin's Griffin, 1997.
- Breedlove, Gen Philip M., vice chief of staff, USAF. Statement. In Senate. *Department of Defense Authorization for Appropriations for Fiscal Year 2013 and the Future Years Defense Program: Hearings before the Senate Committee on Armed Services*. Pt. 3, *Readiness and Management Support*. S. Hrg. 112-590. 112th Cong., 2nd sess., 10 May 2012. Washington, DC: Government Printing Office (GPO), 2012. <https://www.hsdl.org/?abstract&did=745077&advanced=advanced>.
- Brodie, Bernard. *Strategy in the Missile Age*. Santa Monica, CA: RAND, 1959.
- Burns, Robert. "Military Leaders Warn Congress of 'Hollow Force,' " 17 January 2013. <http://www.military.com/daily-news/2013/01/17/military-leaders-warn-congres-of-hollow-force.html>.
- Callahan, Lt Col Bryan. "Force Development and Remotely Piloted Aircraft: How to Guide for Innovation Paralysis." School of Advanced Air and Space Studies paper. Air University, January 2013.
- Chappelle, Wayne, Amber Salinas, and Lt Col Kent McDonald. *Psychological Health Screening of Remotely Pilot Aircraft (RPA) Operators and Supporting Units*. NATO Research and Technology Symposium, Mental Health and Well-Being across the Military Spectrum. Report. Bergen, Norway: April 2011.
- Corbett, Julian S. *Some Principle of Maritime Strategy*. Annapolis, MD: Naval Institute Press, 1911.
- Department of Defense. *Aircraft Procurement Plan: Fiscal Years 2012–2041*. DOD report submitted with FY 2012 budget. DOD, Washington, DC, 2011. http://www.airforcemag.com/SiteCollectionDocuments/Reports/2011/May%202011/Day25/AircraftProctPlan2012-2041_052511.pdf.
- . "Air Force News Briefing by Secretary Donley and General Welsh on the State of the Air Force in the Pentagon Briefing Room." News transcript, 11 January 2013. <http://www.defense.gov/transcripts/transcript.aspx?transcriptid=5174>.
- . "Statement by Secretary of Defense Chuck Hagel on the Distinguished Warfare Medal." News Release No. 241-13, 15 April 2013. <http://www.defense.gov/releases/release.aspx?releaseid=15934>.

- . “Statement by Secretary of Defense Leon E. Panetta on Supercommittee Negotiations.” News release no. 969-11,” 21 November 2011. <http://www.defense.gov/releases/release.aspx?releaseid=14928>.
- Department of Defense Regulation 5210.42. *Nuclear Weapons Personnel Reliability Program (PRP) Regulation*, June 2006, incorporating change 1, 10 November 2009.
- Department of the Air Force (DAF). *United States Air Force Posture Statement 2012*. Statement of the Honorable Michael B. Donley and Gen Norton A. Schwartz. Presentation to the Committee on Armed Services, United States House of Representatives, 28 February 2012. Washington, DC: DAF, 2012. <http://www.posturestatement.af.mil/shared/media/document/AFD-120321-055.pdf>.
- . *The World’s Greatest Air Force: Powered by Airmen, Fueled by Innovation: A Vision for the United States Air Force*. Washington, DC: DAF, 2013. <http://co.ng.mil/News/Pages/130110-vision.aspx>.
- Donley, Michael, secretary of the Air Force, and Gen Norton Schwartz, Air Force chief of staff. “Air Force Priorities for a New Strategy with Constrained Budgets.” White paper, February 2012. <http://www.globalsecurity.org/military/library/budget/fy2013/usaf/afd-120201-027-fy13-priorities.pdf>.
- Ehrhard, Dr. Thomas P. *Air Force UAVs*. Mitchell Institute Study. Washington, DC: Mitchell Institute Press, 2010.
- Eichengreen, Barry, and Kevin H. O’Rourke. “A Tale of Two Depressions: What Do the New Data Tell Us?” 8 March 2010. www.voxeu.org/article/tale-two-depressions-what-do-new-data-tell-us-february-2010-update.
- Elkins, Daniel P. “Force Shaping Board Details Announced,” 8 February 2011. <http://www.afpc.af.mil/news/story.asp?id=123241579>.
- FAA [Federal Aviation Administration] *Modernization and Reform Act of 2012*. House Report 112-381. Conference report to accompany H. R. 658, 112th Cong., 2nd sess., 2012. Washington, DC: GPO, 2012.
- 432d Wing/432d Air Expeditionary Wing Public Affairs. “CSAF Gets First-hand Look at RPA Operations,” 17 January 2013. <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/109852/csaf-gets-firsthand-look-at-rpa-operations.aspx>.
- Freddie Mac. “February 2013 U.S. Economic and Housing Market Outlook,” 14 February 2013. <http://www.marketwire.com/press-release/february-2013-us-economic-and-housing-market-outlook-otc-fmcc-1757137.htm>.
- “FY 2013 National Defense Authorization Act Summary.” Air Force Association website. <http://secure.afa.org/grl/PDFs/2013/NDAA%20FY13%20summary.pdf>.

BIBLIOGRAPHY

- Gertler, Jeremiah. *U.S. Unmanned Aerial Systems*. CRS Report R42136. Washington, DC: CRS, 3 January 2012.
- Gettle, MSgt Mitch. "Force Shaping Necessary for AF Budgetary Management," 8 June 2006. Air Force Print News. <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/130776/force-shaping-necessary-for-af-budgetary-management.aspx>.
- Hanson, Jon. "Air Force Officials Increase Deployment Times," 10 September 2010. United States Air Force website. <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/115655/air-force-officials-increase-deployment-times.aspx>.
- Hardison, Chaitra M., Michael Mattock, and Maria C. Lytell. *Incentive Pay for Remotely Piloted Aircraft Career Fields*. RAND Report. Santa Monica, CA: RAND, 2012.
- Headquarters USAF, Deputy Chief of Staff for Strategic Plans and Programs, Directorate of Programs (AF/A8P). "POM Preparation," January 2011. Air Force Portal. Accessed 24 January 2013. <https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2CA7080FB5E044080020E329A9&channelPageId=s6925EC1352110FB5E044080020E329A9>.
- . "PPBE Executive Training," December 2011. Air Force Portal. Accessed 24 January 2013. <https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2CA7080FB5E044080020E329A9&channelPageId=s6925EC1352110FB5E044080020E329A9>.
- Hebert, Adam J. "Every Pilot in His Place." *Air Force Magazine* 90, no. 10 (October 2007): 66–67. <http://www.airforce-magazine.com/MagazineArchive/Pages/2007/October%202007/1007pilot.aspx>.
- Henning, Charles A. et al. *FY 2011 National Defense Authorization Act: Selected Military Personnel Policy Issues*. CRS Report R41316. Washington, DC: CRS, February 2011.
- Hock, Maj Robert J. "A Study of the Effectiveness of Aviation Continuation Pay." Master's thesis, Air Command and Staff College, Maxwell AFB, AL, 1999.
- House Armed Services Committee. *National Defense Authorization Act for FY 2013*. 112th Cong., 2nd sess., H. R. 4310.
- Jacobson, Maj E. J., RPA Capabilities Office (AF/A2CU), Pentagon. E-mail discussion with author, 20 March 2013.
- Kafer, Capt John H. "Relationship of Airline Pilot Demand and Air Force Pilot Retention." Graduate research project, Air Force Institute of Technology, June 1998.
- Kane, Tim. *Bleeding Talent*. New York: Palgrave Macmillan, 2012.
- . E-mail conversation with author, December 2012.

- Keys, Capt Ronald E., "Dear Boss Letter." To Gen Wilbur Creech, commander, Tactical Air Command, 1979.
- Kitfield, James. *Prodigal Soldiers*. Washington, DC: Brassey's, 1995.
- Kwast, Maj Gen Steven (former ACC/A8). Briefing. Seventh annual Combat Air Forces Airpower Symposium, Langley AFB, VA. Subject: Core Function Lead Integrator (CFLI) Roles/Responsibilities, 16 May 2012.
- Lambeth, Benjamin. *The Transformation of American Airpower*. Ithaca, NY: Cornell University Press, 2000.
- Malackowski, Maj Patrick C., and Maj Keesey R. Miller. "Retention Problems and the USAF Approach." Research report. Air Command and Staff College, April 2009.
- Martin, Maj Margaret C. "The Pilot Staffing Conundrum: A Delphi Study." Graduate research paper, Air Force Institute of Technology, June 2009.
- Metrolis, Maj Charles E., Jr. "Divergent Stability: Managing the USAF Pilot Inventory." Master's thesis, School of Advanced Air and Space Studies, Maxwell AFB, AL, June 2003.
- Miller, Donald L. *Masters of the Air: America's Bomber Boys Who Fought the Air War against Nazi Germany*. New York: Simon and Schuster, 2006.
- Mitchell, Gen William "Billy." *Winged Defense: The Development and Possibilities of Modern Air Power—Economic and Military*, with a new foreword by Robert S. Ehlers Jr. Tuscaloosa: University of Alabama Press, 2009. Originally published New York: G. P. Putnam's Sons, 1925.
- Moless, Staff Sgt Stacy. "PRP Program Ensures Airmen Are Ready 24/7," 2 June 2009. Air Force Print News Today. http://www.minot.af.mil/news/story_print.asp?id=123152203.
- Moore, Jack. "Former Air Force Secretary Michael Donley to Lead Pentagon's Drive for Efficiencies," 27 August 2013. DOD News, Federal News Radio. com.
- Morin, Jamie M., acting under secretary of the Air Force, and Gen Larry O. Spencer, USAF, vice chief of staff. To all MAJCOM commanders. Memorandum, 14 January 2013. <http://apps.federaltimes.com/projects/files/air-force-fy13-memo.pdf>.
- Nagl, Dr. John., nonresident senior fellow, Center for New American Security, Washington, DC. E-mail conversations with author, November–December 2012.
- National Museum of the US Air Force. "Kettering Aerial Torpedo 'Bug.'" Fact sheet, 25 March 2014. <http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=320>.

BIBLIOGRAPHY

- Office of the Secretary of Defense (OSD). *FY 2010 Annual Report*. Washington, DC: OSD, December 2010. <http://www.dote.osd.mil/pub/reports/FY2010/pdf/af/2010afdcgs.pdf>.
- Olds, Robin, Christina Olds, and Ed Rasimus. *Fighter Pilot: The Memoirs of Legendary Ace Robin Olds*. New York: St. Martin's Press, 2010.
- Pettus, Lt Col Evan, USAFE Commanders Action Group. To Gen Mark A. Welsh III, commander, USAFE. Bullet background paper, 3 June 2011.
- Roche, Dr. James G. Address. United States Air Force Weapons School graduation, Las Vegas, NV, 14 June 2003.
- Rumelt, Richard P. *Good Strategy, Bad Strategy: The Difference and Why It Matters*. New York: Crown Business, 2011.
- Santayana, George. *The Life of Reason: The Phases of Human Progress*. New York: C. Scribner's Sons, 1905.
- Schwartz, Gen Norton. Keynote address. Air Force Association 24th Annual Air and Space Conference, Washington, DC, 15 September 2008.
- Senate Committee on Appropriations. "Summary: Department of Defense Appropriations Act, 2013." Press release, 31 July 2012. http://www.appropriations.senate.gov/sites/default/files/hearings/08_02_12%20Defense%20Full%20Committee%20Summary.pdf.
- Shultz, Maj Ted, AF/A3O-AC. Briefing. Subject: MCE Pilot Manning Ratio, Version 4, February 2013.
- . Briefing. Subject: RPA Career Field Growth, June 2012.
- . E-mail conversation with the author, 20 March 2013.
- Spinetta, Lt Col Lawrence J. "Remote Possibilities: Explaining Innovations in Airpower." PhD diss., Air University, 2012.
- Stanley, Maj Dale, USAF Expeditionary Center. Briefing. Subject: Predicting Pilot Retention, May 2012.
- Thompson, Mark. "Nuclear Fallout at the Air Force," *Time.com*, 5 June 2008. <http://content.time.com/time/nation/article/0,8599,1812228,00.html>.
- Tollestrup, Jessica. *The Congressional Appropriations Process: An Introduction*. CRS Report 97-684. Washington, DC: CRS, February 2012.
- Turner, Maj Doyle C. "Refining the Utilization of Air Force Personnel in the 21st Century." Research report. Air Command and Staff College, April 2006.
- Under Secretary of Defense, Personnel, and Readiness. "Military Compensation." <http://militarypay.defense.gov/Pay/basicpay.html>.
- United States Air Force. "Air Force Distributed Common Ground System." Fact sheet, 31 December 2009. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . "B-1B Lancer." Fact sheet, 15 May 2005. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.

- . “B-2 Spirit.” Fact sheet, 1 April 2005. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “B-52 Stratofortress.” Fact sheet, 20 September 2005. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “F-15 Eagle.” Fact sheet, 14 March 2005. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “F-16 Fighting Falcon.” Fact sheet, 8 October 2007. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “MQ-1B Predator.” Fact sheet, 20 July 2010. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “MQ-9 Reaper.” Fact sheet, 18 August 2010. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “RQ-4 Global Hawk.” Fact sheet, 16 October 2008. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “RQ-170 Sentinel.” Fact sheet, 10 December 2009. USAF website. <http://www.af.mil/AboutUs/FactSheets.aspx>.
- . “U.S. Air Force Warfare Center.” Fact sheet, 13 November 2013. Nellis AFB website. <http://www.nellis.af.mil/library/factsheets/index.asp>.
- . “United States Air Force Weapons School.” Fact sheet, 22 August 2012. Nellis AFB website. <http://www.nellis.af.mil/library/factsheets/index.asp>.
- . *United States Code*. Title 37. Sec. 301a. “Incentive Pay: Aviation Career,” 6 January 2003. <http://us-code.vlex.com/vid/sec-incentive-pay-aviation-career-19231316>.
- . Sec. 301b. “Special Pay: Aviation Career Officers Extending Period of Active Duty,” 6 January 2003. <http://us-code.vlex.com/vid/aviation-career-extending-period-active-19231289>.
- United States Government Accountability Office (GAO). *Homeland Defense: Actions Needed to Improve Management of Air Sovereignty Alert Operations to Protect U.S. Airspace*. GAO Report 09-184. Washington, DC: GAO, January 2009.
- . *Military Cash Incentives: DOD Should Coordinate and Monitor Its Efforts to Achieve Cost-Effective Bonuses and Special Pays*. GAO Report 11-631. Washington, DC: GAO, June 2011.
- Weber, Maj Eric, Headquarters Air Force Rated Force Policy (HQ USAF/A1PPR). Briefing. Subject: ASAM ’13 Orientation, Air Staff and ’10 Grads’ Perspective, January 2013.
- Welsh, Gen Mark A., III, former commander, USAFE. To all USAFE fighter pilots. E-mail, 25 April 2011.

BIBLIOGRAPHY

Interviews

- Callahan, Lt Col Bryan (SAASS Class XXII student and RPA weapons instructor). Interview by the author, March 2013.
- Craddock, Lt Col C. (commander, 27th Fighter Squadron, Langley AFB, VA). Interview by the author, 21 February 2013.
- Fesler, Lt Col Pete (former commander, 27th Fighter Squadron, Langley AFB, VA). Interview by the author, 29 January 2013.
- Gallo, Lt Col B. (commander, 509th Operations Support Squadron, Whiteman AFB, MO). Interview by the author, 30 January 2013.
- Kent, Lt Col J. (commander, 433d Weapons Squadron, Nellis AFB, NV). Interview by the author, 25 January 2013.
- Rehm, Col B. (former RPA squadron commander, currently 732 OG/CC). Interview by the author, 31 January 2013.
- Steffens, Lt Col C. (former commander, 14th Fighter Squadron, Misawa AB, Japan). Interview by the author, 7 February 2013.



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